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# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

JULY, 1878.

#### ORIGINAL COMMUNICATIONS.

#### OBSERVATIONS ON PNEUMONIA.

By S. M. BEMISS, M. D.

(Read before the Orleans Parish Medical Association.)

I beg leave to offer this Association a few observations upon pneumonia, as it has appeared both in Hospital, and in private practice since I have resided in this city.

It will be perceived that I have avoided all effort to write a formal dissertation on the subject which has been chosen. This has been better accomplished in quite a number of our medical text books. My objects are, simply to present for your consideration, the leading clinical features of a very important disease as I have observed it in this city.

Nevertheless, it seemed necessary to arrange my subject under the usual headings of the text books, in order to methodize it better, and also to avoid repetitions.

In this contribution, the term pneumonia is restricted to that form of lung inflammation which is attended by exudation of fibrinous material sufficient to solidify greater or less portions of pulmonary structure; in truth, seldom ceasing before a lobe is entirely occupied by the exudation. I hope at som

future meeting to be permitted to call attention to other forms of lung inflammation, likewise classed under the designation of pneumonia. I also confine the observations presented in this paper, to idiopathic cases; excluding all circumscribed, or secondary lung inflammations, from tubercles, abscesses of the liver, or other local exciting causes.

#### STATISTICS CONCERNING.

One of the very first points of interest concerning any disease is its degree of prevalence. How often are we likely to meet with it? in what proportion of cases does it become fatal? are questions naturally occurring to our minds whenever we 'egin to study a disease.

Before having recourse to figures which shall be adduced to afford answers to these questions, it is proper to explain that the diagnoses may be considered correct,-probably without a single exception. It is unquestionably true that the symptom most strikingly and uniformly characteristic of pneumonia, is disturbance of the healthy pulse-respiration ratio. this, and other physiological symptoms were carefully considered in every case, no diagnosis was affirmed unless the physical signs of solidified lung were joined to these indications of a local inflammation. It should also be mentioned that several cases are included in the group of statistics herein contained, which were admitted in moribund states, and in respect to which, diagnosis was only rendered possible by the On the other hand, when it is asserted in the autopsies. paper that several cases of pneumonia were aborted, or cut short in their career, only one of these cases is included in the statistical enumeration.

In my very great care to present these statistics as nearly correct as it is possible to make them, I have thrown out the figures relating to three terms of my hospital service, because errors were detected in the records kept in my wards.

My figures after this elimination, comprise nine half years of service in Charity Hospital, each term beginning October 1st, and ending April 1st.

During this period the aggregate number of cases of all forms

of disease treated, is 2638 of which 318 or 14.36 per cent. died. Of the aggregate number of cases admitted, 92 were pneumonia, or 3.48 per cent., equal to 1 in 28.67, of all admissions. Thirty-six of the cases of pneumonia died: 54 recovered, 2 remained in Hospital. Thus 39.13 per cent. died: 58.68 per cent. recovered. Pneumonia therefore, furnished 3.48 per cent. of all admissions or 1 in 28.67 and yet occasioned 28.93 per cent. of total mortality, or one death in every 3.45.

Let us now compare these Hospital statistics with those furnished by the annual reports of the Board of Health of this city. For eight years, 1867 to 1874, the deaths in this city aggregated 52980. Of this number 2370 were returned from pneumonia, or one death in every 22.35. If we exclude the epidemic year of 1867 with its mortality of 9586, the deaths from pneumonia for seven years, were one in every 20.80 or 4.80 per cent. of aggregated mortality.

It should be remembered that the Board of Health reports comprise those of Charity Hospital, so that computations containing the two are not free from error.

But as a body associated for mutual aid and advancement, each of us should bring to the common treasure the small mite he may be able to afford; I therefore, include the statistics of pneumonia in private practice. Since January 1st, 1873, I have treated in private practic 23 cases of pneumonia, of which five died. I have therefore lost 21.74 per cent. of my cases, or 1 in 4.6. For the same period of time this disease has produced 9.43 per cent. of deaths from all causes, occurring in my practice. Juergensen asserts that pneumonia occasions 6.6 per cent. of total mortality from all causes, and Dickson's ratio of deaths in 80.437 cases of pneumonia which he has tabulated, is one in 4.8.

#### ETIOLOGY.

It is not necessary to occupy the time of this Association with any extended remarks upon the cause of pneumonia. It is a disease more or less general to all climates, but certainly more prevalent in some localities than in others. This statement is true, even as it respects localities whose

climatic influences may be considered as quite identical with each other.

To the members of this Association, one of the most interesting points connected with the etiology of pneumonia is the possible causal relation of malarial poison to this disease. A long study of this question has convinced me that malarial toxemia increases the liability to pneumonia. While I am unable to adduce facts sufficiently strong and numerous, to enforce this conviction, I may say, that analogy, as well as collected experiences, favors such a belief. No one now disputes the fact that several forms of toxemia and anemia, predispose to pneumonitis in common with other inflammations. Bright's disease may be especially instanced. The analogy between the perversions of blood from this cause, and the malarial poison, are quite sufficient to justify the opinion that both may enjoy the same unhappy preëminence in rendering attacks of pneumonia more frequent.

In our studies of this subject the blood affluxions and congestions which malarial paroxysms invariably entail upon the subjects, must be taken into account and accredited their full value in originating pneumonia, especially when the lungs are the seat of the blood stasis.

In temperate latitudes it is every where admitted that depressions of temperature produce attacks of pneumonia. This city is not exempt from such a law. Prof. Chaille's statistics abundantly prove this fact. For the whole five years extending from 1866 to 1870, 1648 deaths occurred from pneumonia. Of this number 1028 are returned for the half years ending April 30th, and 616 for the half years ending October 31st. It is thus seen that 62.49 per cent. of the mortality from pneumonia occurred during cold months of the year, against 37.51 per cent. during the warm months.

#### SYMPTOMATOLOGY.

Those physicians who practice their profession in this city, generally assume that malaria is a pathological element in almost every form of accute disease they are called upon to treat.

This has been my fixed conviction with regard to pneumonia, and my teachings and treatment have been constantly shaped so as to accord with this hypothesis. But after many scores of observations upon temperature, with a view to detect the periodic fluctuations of external heat of the body characteristic of the morbid process of that poison, I am obliged to say that the march of temperature in the cases of pneumonia observed, very seldom exhibits any striking divergence from cases recorded as typical in localities where no malaria is found. I have sometimes endeavored to explain this fact by saying that anti-periodics administered, had arrested the malarial process: again I have said that the morbid phenomena induced by the local inflammation had overtopped, and as it were, smothered malarial manifestations. But on the other hand, certain cases of pneumonia furnished marked exceptions to these statements. The line projected from figure II, in group 1 shows in a striking manner, the sharp curves of a quotidian intermittent. I am however able to assert that in a limited number of instances, probably not exceeding five, I have been justified in characterizing the cases as distinctly intermittent, in respect to the greater or less progressiveness of the pneumonia process.

The statement may also be positively made, that the advent of the lung inflammation was more often silent and unsuspected, because obscured by the phenomena of malarial paroxyms. Again, my observations sustain me in saying, that deviations from the usual type of pneumonia are often positively attributable to malaria, and are exhibited in the character of the sputa; absence of crepitant rale; unusual oedema of affected lung; or unusual adynamia of patients; or oftener still, in the arrest, or retardation of the process of resolution.

#### PROGNOSIS.

Questions of prognosis are to the physician questions of prowess and skill; who shall obtain the ultimate victory, or who shall have the advantage in the onslaught, the physician or death!! We, who are situated here, as humble defenders of this part of the line against our common enemy, read of most brilliant results elsewhere, and yet know that

they are never vouchsafed to us. Sometimes, we are, doubtingly, tempted to ask if these reports are true? Is it possible, we say, that one man can have treated over one hundred cases of pneumonia with three deaths, and another, more than fifty cases, with but one death, while we lose at least, one in every ten we treat?

It is an established fact in medicine, that uncomplicated pneumonia ordinarily gets well. We need not say that it "tends to recover," since some hold that it is paradoxical to admit that any disease tends to result in health; but we may be permitted to say, that inflammation of organs even as indispensably vital as the lungs, may be endured by the human economy, if no additional weight be added to it.

The prognosis of pneumonia may be postulated thus:-pneumonia is always a grave disease, even when simple; but if complicated, the danger is increased; and the increase of danger is directly commensurate with the nature and intensity of the complicating malady. This method of putting the question brings us directly home to our own situations and responsibilities. We must all admit that diseases have their normal and . desirable types, as well as health. And also, that considerable departures from these standard types are indications of increase of danger. We must again admit that perturbations of these typical forms of inflammations are extremely liable to occur here. First, from the presence of malaria as a morbid factor; next, because it is an undeniable truth that stability of composition is less well preserved to the blood in warm, damp climates, than in those cool temperate regions, where neither excessive cutaneous functions, nor excessive hepatic functions, nor weakened nervous energies, are so often the rule as here. It is my opinion, that the leading question affecting prognosis in pneumonia, is in regard to the state of the fluids of the body at the time of, and during the attack.

It is however well to make a passing observation in relation to certain symptoms and complications, as affecting prognosis.

1st. High ranges of temperature. An examination of the two groups of cases whose records of temperature are litho-

graphed, will show a higher range for the fatal cases than for those which recovered. One alone, reached 105 in the first group, while of the four fatal cases, three exceeded this point. Case III, group 2, showed highest range of temperature. Patient died on 18th day of disease. Post mortem examination revealed a large abscess in the upper lobe of right lung, remaining portions of this lung hepatized.

2d. Nervous asthenia, whether from dissipation, fatigue, blood poison, or other cause, is an unfavorable prognostic.

3d. Persistent hiccup, is an almost surely fatal symptom. In two of my cases attended with uncontrollable hiccup, autopsy showed more than usually intense diaphragmatic pleurisy.

4th. Hooping cough is a very grave complication. Three of the twenty-three cases which I report from private practice, were children under eight years of age, suffering from severe hooping cough. I have never had a recovery from pneumonia complicated by hooping cough, to occur in my practice.

5th. Involvement of both lungs increases the gravity of the case, but if the morbid process is sufficiently slow to permit residual lung structure to be brought into utilization, it is frequently recovered from. Case III in group 1 was double.

#### Case III-Group 1-Pneumonia double. (Clinical Notes by DR. McMurtry.)

Charles Schonkenberg, æt. 32; German laborer; admitted Dec. 11; states that he was seized with a chill on day of admission and has great difficulty in swallowing. Pulse 110; temp. 104; respn. normal. On examination of thorax and abdomen nothing abnormal was discovered. Tonsils were found to be much enlarged, swollen and very red and painful. Ordered magnesia sulph. in broken doses through the day, and warm poultice to be applied to the neck.

Dec. 13th: General condition about the same and distinct fluctuation felt in tonsils. On being punctured, a quantity of pus was discharged. Patient complained of pain in the left side which he refers to the region of the spleen. No physical sign of inflammation found here. Pulse 108; tempt. 103.8°

Ordered H. Q. during the day with best nourishment.

Dec. 14th: Febrile symptoms continuing and also pain in the side. Examination of lungs shows beginning pneumonia in left lung.

Dec. 15th: Entire left lung is involved in the pneumonia

process, lower lobe solidified. Rusty sputa present. Ordered brown mixture with small quanity of Pulv. Doveri; also flax

seed lemonade and best nourishment.

Dec. 16: Entire left lung crammed with exudation and small patch in lower lobe of right lung also found to be involved. Tonsillitis has entirely disappeared. Patient of remarkably robust constitution but very weak to-day. Ordered prescription of yesterday to be continued with best nourishment; also warm cloths over involved lung. All the physical signs of consolidation well marked.

Dec. 18: Patient very weak this morning. Did not rest well last night; was slightly delirious. Takes nourishment well. Secretions very good. Bronchophony and tubular breathing over involved portions of lung substance. No change of treat-

ment.

Dec. 19: Patient rested very well last night and general condition much improved this morning as indicated by pulse and temperature. Resolution is beginning as indicated by returning crepitation at base of left lung. Ordered R Potass. Bicarb. 3i Tinct. Opii. 388. Mist. Fuscæ 3iv. M. et S. tablespoonful every 3 hours.

From this time resolution continued steadily and Dec. 24 patient was sitting up, with lung entirely free from exudation, resonance normal, vesicular murmur returned, but some pain from the accompanying pleurisy; slight friction murmur over

left lung.

6th. Race as a prognostic affords a question worth our study. In the Southern States the negro population is to the native white, as 415 to 563 in every 1000, and yet they furnish 501 deaths in every 1000 from pneumonia.\* But statistics taken from the same source, show a mortality from pneumonia among foreigners, relatively greater than this in comparison with the native. They are as 22 in 1000 to the native whites and yet furnish 24 deaths in every 1000 from pneumonia.

7th. Perspiration to a moderate degree is desirable, but when excessive is a bad symptom.

8th. Finally, I wish to suggest to the members of this Association, that a condition of general pulmonary emphysema is probably an element of safety to patients attacked by pneumonia. I shall offer no theory as to its mode of protection, but will simply affirm that three of the cases recorded, occurred in the persons of patients who were old asthmatics and whose lungs were in typical states of emphysema. All of these cases

<sup>\*</sup> Statistical Atlas of U. S.

recovered, although the process of resolution was very slow in each of them. The following notes illustrate one of these cases.

#### Case I-Group 1.

(Clinical Notes by Dr. CHARLES KELLEY.)

George Nicholas, ward 18; bed 267; emphysema and asthma with intercurrent pneumonia. Entered while suffering with an asthmatic paroxysm; asthmatic wheezing very distinct on both sides; expiratory sound about twice as long as inspiratory; tympanitic percussion at margins of lungs, particularly at lower margin of left lung; apex of heart pushed somewhat to the right; very evident that general pulmonary emphysema exists; has had frequent attacks of asthma during past eight years. While in hospital was attacked with pneumonia of right lung, beginning with a well marked chill on the night of the 31st December.

On the morning of 2d January, fine crepitation was heard

over lower lobe; sputa rust colored.

3d. Middle lobe involved, bronchial breathing and voice; patient very weak, sinking into collapse; no chlorides in urine; active, supporting and stimulant treatment.

4th. General condition better; pulse stronger; whole lung involved posteriorly; delirious night before; thought "they wanted to kill him," and hallucinations still retained; thinks "the sister wants to poison him;" is otherwise perfectly rational.

6th. Delirious the night before, pulse well sustained; bronchitic sputa; very frothy, replacing pneumonic sputa; returning rales beginning; chlorides in urine in abundance.

7th. Same, but not so delirious night of 6th, as before.

8th. Subcrepitant rales throughout lungs posteriorly; considerable white frothy expectoration; complains of stitching pain in right side and lies on his back or left side; pulse slightly irregular; auscultation of heart gave no evidence of heart clot; subcrepitant rales are coarser than usual, explained by enlarged condition of air cells; it was stated that the condition of excessive emphysema favored the formation of heart

13th. Resolution continues, but progresses slowly; pleural friction heard just below angle of scapula, also tubular breathing; lung still solid at lower part; furuncle on back; bed sores; collapse of lower lobe of right lung; for some reason re-expansion was delayed for a long time. Recovery from pneumonia followed by return of asthmatic paroxysms.

#### TREATMENT.

That the observations which I shall offer in regard to treatment, may be abbreviated to the greatest possible extent, consistent with their fair presentation, I shall arrange them under three propositions, the first of which is negative in its character.

1st Prop: We know of no therapeutic agents or measures, which with any degree of certainty, arrest, or abridge the morbid process of pneumonia.

2d Prop: The leading indication of treatment is to preserve, or to render, the case as nearly typical as possible, both as it respects the local inflammation, and general constitutional states.

3d: Prop To treat any troublesome individual symptoms which may present themselves.

The first proposition involves a discussion in regard to the action and remedial capabilities of those measures usually employed to combat the inflammation.

General bloodletting has not been resorted to in any case comprised in this report. In the early years of my professional life, while practising in an elevated and for the most part, non-malarial country, I have interrupted the course of cases of pneumonia by a large bleeding employed during the first hours of the attack. But bleeding and the pneumonia process are both directly spoliative to the blood, and if the remedy should fail in accomplishing its ends, it becomes an additional element of disease for the patient to encounter. It is therefore only proper to resort to it in cases which are positively sthenic and entirely uncomplicated.

I look upon opium as the most potent and certain of the drugs which we employ against the local inflammation. But to secure its good effects it must be given in large doses, which unfortunately, are contra-indicated in all those cases where bronchial accumulations are required to be expectorated. Case IV, Group 1 of "aborted" pneumonia shows that the principal medication instituted, was ten grains of Dovers powder every four hours.

### ABORTED PNEUMONIA. (Clinical Notes by Dr. J. R. WATSON,)

Ward 18, bed 270. Frank Sherry, age 22 years, native of Ireland, came to America in 1861. Occupation a speculator. Has been very intemperate in habits for the last ten years or

more. Entered the Charity Hospital Jan. 18th, 1870, after having been on a debauch for three weeks. He was much exposed to the vicissitudes of the weather during his debauch, and says that he did not sleep a good night's sleep during the time. Examination on Jan. 21st showed evident signs of pleuritis; suppressed breathing, and pain referred to the right side, on taking a full inspiration. Jan. 22d, fine crepitation heard over a very limited area of the posterior portion of the chest, tongue coated, pulse weak, sputa scanty, tenacious, perceptibly tinged. The diagnosis was now confirmed to be pneumonia. Treatment H. Q. stimulants and good diet. Jan. 23d. Patient says that he did not rest well last night,

was disturbed by frightful dreams.

Ordered Dovers powders to be given in ten gr. doses every

four hours, and warm applications over the right side.

Jan. 25th. All the signs of pneumonitis have disappeared. Tongue clean and temperature normal. The pneumonia has been evidently cut short. Patient discharged well.

Local applications to the affected side were used in every case. The usual practice was to make the first one a hot turpentine stupe, and afterwards to apply flaxseed poultices, cloths wrung from warm water, or the flannel jacket and oiled muslin.

I have no experience in the application of cold for the arrest or mitigation of the inflammation, but feel satisfied that it is justifiable practice.

I can however, speak in a very commendatory manner of the practice recently suggested for the treatment of acute pleurisy, by limiting movement of the affected side by long strips of adhesive plaster crossing each other diagonally over the chest wall.

Mercurials I never resort to, with the expectation that they will in a direct manner, exert any control over the march of the local inflammation.

I shall conclude my remarks under the first proposition, by saying that in respect to the several cases of "aborted pneumonia" referred to, I do not ascribe the arrest of the morbid process to specific drug action more than I do to some contingency, which happily for the patients, exerts a prompt and powerful change upon those constitutional states, which predisposed to the lung inflammation. For example, Frank Sherry was a man of powerful constitution, who had been dissipating and exposing him.

self until pneumonia followed. During its forming stage, he was admitted to a comfortable bed in a hospital ward. Good nutritious food was given him, warm poultices were placed over his side, and one grain of opium administered every fourth hour. While one does not wish to do otherwise than to commend a course of treatment which was admirably successful, it is still difficult to say how much the opium is to be credited for the arrest of the disease. In regard to other cases of arrest of pneumonia after admission to hospital, the only medicines administered were opium and quinine.

I do not consider it necessary, while speaking of the possibility of arresting the morbid process of pneumonia by remedial measures, to enter into any discussion of the efficacy of general apyretics, when resorted to for this purpose. Reduction of the temperature of the body does not necessarily imply arrest of local inflammation. While I do not underrate the importance of limiting high temperature in pneumonia, as subsequent remarks will show, I hold that experience fails to justify expectations that the disease may be aborted by the use of apyretics, even the most certain and powerful in their action.

Prop: 2. Under the second proposition the role of the physician is plainly written, provided he is able to determine what cases are typical, and what causes the variations in those which show departures from type. Fortunately, these are points not difficult of solution. The physiological disturbances differ so widely between uncomplicated pneumonia, and complicated pneumonia, that the observer is not at a loss to distinguish them, the one from the other. The symptoms which are most strikingly differential between typical and non-typical cases, relate to the march of temperature; the state of the nervous system, and the state of the fluids, in regard to which, the sputa generally afford reliable indications. If the case is a typical one, the duties of the physician are quite entirely hygienie, unless some annoying symptom demands his attention. In proof of this statement I adduce the following case illustrating the course of pneumonia entirely uninfluenced by treatment.

#### Case.

## PNEUMONIA (ILLUSTRATING NATURAL HISTORY OF THE DISEASE.)

(DR. McMurtry's Clinical Notes.)

Bed 254. History. John Shay, at. 22, laborer, a vigorous young man, entered hospital November 22d, 1872. States that ten days since, on the 12th inst. he was seized with rigors, pain in the left side, with cough. On the day previous he had been greatly exposed to rain and wet. States that up to time of admission he had received no medication at all. With the exception of a mush poultice placed over his side by his comrades, nothing had been done for his relief. Describes the pain in the side as of a dull character and says it has continued up to this time; says his sputa have been abundant, but he did not observe their color.

Symptoms on admission: On examination it is observed that the left side of chest does not expand equally with the right; on percussion normal resonance over both lungs, except lower portion of left. Auscultation gives loud tubular breathing over lower lobe of left lung, with bronchophony and with fine crepitation around the lower border, heard more distinctly posteriorly. Temp. 98.5 F., pulse 68, of good strength. Resp'n 26, sputa abundant and tenacious, and without blood. Tongue with furred coat and the appetite is diminished. Diagnosis: Pneumonia involving lower lobe of left lung and in the stage of beginning resolution. Ordered, H. Q. \(\frac{5}{2}\)ii, S. a teaspoonful every four hours during the day, also \(\frac{3}{6}\) Hydrg. Chlor. Mit: Soda Bicarb. aa Gr. v: S. Take at once.

Progress of the case: Nov. 24. To-day the crepitation is more distinct, and extended over greater part of the involved portion of lung. Temp. pulse and resp'n same as on admission; appetite somewhat improved and appearance of tongue improved; sputa still abundant and tenacious; complains of inability to sleep; secretions generally good; ordered good diet and B Pulv. Doveri Dii Ft. Cht. No. IV. S. one powder at night. Nov. 29. Patient continues to improve; is sitting up and walks about the ward; crepitant rale over the entire affected portion of lung; appetite very good and secretions good; pulse, temp. and resp'n normal; ordered good diet and cough mixture, also bitter tonic. December 5. Patient has continued to improve daily; resonance over entire lung on percussion and vesicular murmur returned; discharged in good condition.

If on the other hand pneumonia be complicated with some other disease, or, if the attack overtake a patient in some cachectic condition of the system, then the practitioner has two enemies to contend with, the one a local inflammation of a vital organ; the other a more or less formidable obstacle to his efforts at cure. The indications which govern this emergency, are to subtract the complication, or cachexia present, and thus reduce the case to comformity to type. It is unquestionably true that the malarial poison oftener than any other cause, occasions departure from type in this locality. This agent, so deleterious to human health, is so omnipresent and so constantly a morbific cause to which our hospital patients are known to have been exposed, that one is liable to fall into frequent error if he does not assume that it taints all acute diseases to a greater or less degree. Consequently some salt of cinchona was administered to every patient admitted with pneumonia, whose condition was such as to allow any medication whatever. I usually ordered at my first visit, doses of from five to ten grains of quinine, represented by 3i to 3ii of the ordinary house solution, H. Q. until from thirty to sixty grains had been taken. This large dosing is based upon the hy: pothesis that more is required to subtract the influence of a given quantum of the malarial poison complicating an acute inflammatory disease, than to cure its manifestations when existing alone. I do not certainly know that this is true, but it seems to be a reasonable doctrine. The following case illustrates malarial pneumonia.

#### Case No. 2.

## PNEUMONIA WITH INTERMITTENT FEVER. (Clinical Notes by Dr. McMurtry.)

Wm. McGowan, laborer; æt. 45; admitted Oct. 30, 1872. Gave a history of malarial fever, intermittent, extending over some time past; says that previous to the occurence of this he has always had good health, though he is not of very robust habit of body. Ordered a mild purgative and H. Q. in teaspoonful doses every four hours. There was no recurrence of the malarial paroxysm, but Nov. 3, he complained of pain in lower portion of chest on the left side on deep inspiration. Said he had a slight rigor the previous evening. General febrile symptoms present and exalted pulse, temp. and respn. Is troubled with cough and has abundant expectoration of frothy mucus colored with blood. On auscultation harsh respiration over right lung and the characteristic fine crepitation over the lower lobe of left lung. H. Q. discontinued for to-day and ordered brown mixture with best nourishment.

Nov. 5th: Patient has to-day a very anxious expression of countenance, and an appearance of debility. Pulse is rapid, 102 and sharp. Temp. 101. Respn. 38, and labored. Physical examination shows that the upper lobe of left lung is also involved in the inflammatory process, crepitant rale heard distinctly over this portion of lung, and bronchial breathing over the lower portion of the lung. Ordered H. Q. during the day,

with milk punch and eggs.

Nov. 7th: The morbid process has now fully extended over the upper lobe of the left lung and both upper and lower lobes are crammed with the exudative material. Bronchial breathing and bronchophony over these parts. General condition of patient somewhat improved during past two days, during which time he has been taking H. Q. with the view of controlling the malarial complication. Temp. reduced to 99,20. Pulse 94, more compressible. Respn. 30. H. Q. discontinued. Ordered wine and best nourishment.

Nov. 14th: Patient sitting up to-day and condition very greatly improved. Process of resolution is almost completed in lower lobe of the affected lung as indicated by the return of vesicular murmur. Tubular breathing still distinctly heard over upper lobe. Treatment during the entire course of the disease has been only an occasional use of H. Q. with best diet and during the stage of resolution stimulants (wine and beer). Ordered to-day cod liver oil, also flying blister over affected

portion of lung.

Nov. 24th: General condition improved, though a portion of the upper lobe of affected lung is still consolidated. Treatment has been cod liver oil, with stimulants and best nourishment. Patient complains of pleuritic pains and diarrhoa this morning. No effusion into thoracic cavity. Ordered: R. bismuthi subnit. Jiii. syr. tragacanth, cherry laurel water aa 588., syr. morph. 3ii. aq. menth. pip. 3iii. M. et S. tablespoonful every 4 hours.

Nov. 29th: Diarrhea continues, with serous discharges. Ordered R acidi nitrici dil: tinct, opii aa 3ii, aq. camph. 3iv. M.

et S. tablespoonful 3 times daily in water.

Dec. 9th: Patient has now entirely recovered from the diarrhoea and is improving. Resonance impaired and vesicular murmur diminished over lower lobe of left lung, which is in great part attributed to layers of fibrin from former pleurisy. The effusion has never been removed from lower portion of upper lobe. Tubular breathing and bronchophony marked over this part, with dulness on percussion. Patient was discharged in this condition December, 13th, 1872.

Feb. 1: Patient was re-admitted to ward, January. 1, 1873, in in a very feeble condition. Had been greatly exposed during the past three weeks and was suffering with diarrhea when re-admitted. Some symptoms referrable to affected portion of lung on re-admission which have now disappeared. Has been treated with tonics and occasional use of subnit. bismuth. mixt. and is now improving daily, no pulmonary trouble at this time.

But the administration of cinchona salts is far from representing the whole duty of the physician in cases where malaria complicates pneumonia. Alteratives and eliminants are nearly always required. Indeed, we have forms of pneumonia which are characterized by a train of symptoms so commonly connected with ordinary bilious attacks (as both the laity and our profession denominate them), that we feel warranted in applying this term to designate them, and say that we are treating "bilious pneumonia." These cases present important departures from type, since they involve additional forms of blood empoisonment, which no doubt exercise a prejudicial influence over the local inflammation. The symptoms which mark these cases, are an unusual degree of gastric irritation, especially vomiting with bile in the ejections; extraordinary furring of the tongue; sallowness of skin; or even positive conditions of jaundice. In attempting to explain the underlying conditions of pathology in this "bilious pneumonia," in their order of frequency, I would indicate, 1st, malarial poison; 2d, jaundice, either from perihepatitis, true hepatitis, or defective oxygenation of the blood; 3d, catarrhal gastroduodenitis. In my experience, bilious pneumonia more often occurs in the latter part of winter, or early in spring with vernal attacks of malaria, than at other seasons of the year. Mercurials are the best means which we can employ for reducing these cases to a typical form. From five to twenty grains of calomel, in combination with five or ten grains of bicarb, soda, may be placed upon the tongue and washed into the stomach by a spoonful of water. This acts as an eliminant and blood depurant by its purgative effects, and is at the same time powerfully curative of inflammations of mucous surfaces both in the intestinal tract, and system of bile ducts. Other excellent eliminants may be found in solutions of acetate, or citrate of amonia, or potash, or in bitartrate potash dissolved in ordinary lemonade. Coincidently with this medication quinine may also be given, and the patient sustained by forced diet,

and if necessary alcoholic drinks. In some of those cases of supervention of jaundice in pneumonia, which are not referrable to obstruction of the bile ducts by inflammation, and which can only occur because defective oxygenation arrests those chemical changes which, in the healthy economy, dispose of the bile as it is absorbed into the blood, I have been struck with the rapidity with which nervous ataxia, delirium and failing circulatory and muscular force ensued. But with forced diet and stimulants, we may occasionally tide a patient safely through.

In the limited scope of this paper, I can only say in closing a discussion of the second proposition that errors of type in pneumonia can generally be referred to some faulty state of the fluids at the date of attack. The history of the patient, and a close examination of his general condition usually reveal the nature of the disturbing cause. Whatever it may be ascertained to be, it should be combatted by all the means within our reach. We will often find that diet, alcoholic drinks, and pure oxygenated air constitute the best curative measures we can employ. If we admit that morbid physiology possesses certain types which we consider desirable to be preserved, it is reasonable to say that they are dependent upon proper nutrition to ensure their regularity as well as is the physiology of health. Neither can fault be charged against that philosophy which holds that departures from type in the morbid phenomena of an inflamed organ, which are found to depend upon a co-existing cachectic state of the blood, should be met by vigorous efforts to supply new elements in order to restore the healthy composition of that fluid.

Spoliative or depressing measures of treatment should never be practiced for a pneumonia complicated by a blood lesion. Even in simple forms of pneumonia the imprudent exercise of such measures is sufficient to occasion fatal departures from type, which would not have occurred under conservative treatment.

I make no reference in this paper to "typhoid" pneumonia as a generic type of this disease. The term is proper enough when limited to its strictly adjective sense, and applied to indi. vidual cases. But it should not be used generically. No facts have ever come under my observation, which justify a belief that the term may be properly employed to represent any nosological clasification of pneumonia. While it is undeniable that certain seasons, or eras of medical practice, give the practitioner a larger than usual prevalence of these typhoid forms of individual cases, they may be ordinarily ascribed to causes accidentally present. The presence of of a wide-spread and intense influenza; or of any epidemic disease; depressing climatic conditions; failures or deteriorations in food supply, or perhaps even moral dejection from some public calamity, may each be capable of determining typhoid states in connection with all forms of inflammation which occur synchronously.

In the winter of 1874-75, I attended in my wards 21 cases of pneumonia, of which 10 died. I attribute the unusually large number of admissions to climatic influences, and the unusual rate of mortality to the fact, that the hospital was at that time very poorly supplied with nourishment and stimulants requisite for the treatment of such forms of disease.

3d proposition—Symptomatic treatment. 1st, fever.

An excessively high range of temperature on the part of a patient, is under all circumstances a matter of concern to the physician.

But when these high thermometrical readings occur to a patient with pneumonia, they are cause for the deepest solicitude. Fever is at all times a spoiler of the blood, in direct ratio to its intensity and persistence. It embarrasses the functions of this fluid by accumulations of waste material, and impairs its office as an oxygen bearer. These effects are immensely more injurious when occurring to patients allalready suffering a lesion, which interferes with exchange of gases in the blood. Heated blood is also incompetent pabulum for nerve centres, and for the heart, while its effects upon the inflamed lung are unfavorable to recovery, often indeed, exceedingly disastrous. Case III, in the Group of fatal cases illustrates the occurrence of abscess of the lung after a career of excessive fever.

Fever was treated by quinine, cold diluent drinks, sponging

the surface and often by digitalis. A prescription very frequently employed is sol. citr. amm. 5iiiss., tinc. digitalis 5ij, syrup morphia and syrup ipecac aa 5j—one table spoonful every one, or two hours. Occasionally from twelve to thirty drops of tinct. veratr. vir. was added to this mixture. Gentle purgation either by bitar. potash dissolved in flaxseed infusion and made cold with ice, or by seidlitz powders, often exerted a very favorable effect over excessive temperature.

The value of quinine as an apyretic was always held in view, and it was a prescription seldom omitted for fever, but it was never given in those large doses now resorted to by German practitioners. In truth, quinine was more often supposed to check the febrile movement because of its antiperiodic properties, than by virtue of any control it might directly exert over the heat making processes of the system.

But as this latter property is too well established to admit of dispute, it is probable that in the cases recorded, the full therapeutic value of quinine was not realized, as it respects the abatement of temperature when excessively high.

2d. Pain. Pain must be relieved by opiates if admissible; dovers powder was the prescription I usually employed. A very good method of administering this preparation is to add it to the mistura glycirrhize in such quantities that a table-spoonful of the mixture shall contain from two and one-half to five grains of the powder.

Cupping, either wet, or dry, was occasionally practiced for relief of pain. Warmth and turpentine stupes have been previously mentioned. Sinapisms were quite frequently used: blisters I seldom ever employ in treating pneumonia except in cases where the process of resolution is slow or seems to be suddenly retarded. Sometimes pain can be mitigated by obliging the patient to assume a decubitus which relieves the congested blood vessels of the inflamed pleura and lung, by placing them in a less depending position. Patients do not object to enforcing this change of posture, provided the movements of the affected side be restricted by adhesive straps. This observation indicates that patients suffering from pleurisy and pneumonia, frequently assume a decubitus upon the affected side in

order to restrain its movements, rather than because it gives better opportunity to inflate the well lung.

3d. Cough. A symptom always present in pneumonia and demanding more or less attention according to its gravity.

The "Brown mixture," either simple, or with Dover's powder added, was the most common remedy used for cough. Camphorated of tincture opium, either alone, or combined with syrup gum arabic, was a frequent and efficient prescription. Occasionally I have used with very good effect Dr. Balfour's prescription of chloroform 3i, to sweet oil 3vij; a teaspoonful every two to four hours. Where alcoholic drinks are not contra-indicated, their anæsthetic effect over cough is often highly beneficial. In those forms of cough attended by large amount of expectoration we are debarred from the use of opiates to any considerable extent. In these cases I am sure that I have derived advantage from carb, amonia, in rendering expectoration easier, perhaps by diminishing the viscidity of the sputa. In no other condition, and for no other symptom, have I ever been able to assure myself that it was of the least benefit. But for whatever purpose the practitioner may think best to give carb. amonia, he has always to be on guard lest it produces intestinal irritation and diarrhea.

4th. Insomnia. This symptom, when troublesome, is generally associated with delirium. The cases bear a striking resemblance in their whole contour of symptoms to mania-a-potu. But while the phenomena are more apt to exhibit themselves when the patient has been on a debauch, or has the drunkard's cachexia, I have known them to occur when all such influences could be excluded from the clinical histories. The treatment most likely to prove successful is by digitalis and opium. From ½ to ½ grain of morphia may be given hypodermically, and 3j of tincture digitalis given every two hours. Where I feared to practice such bold measures, I have often given a teaspoonful every two hours of a mixture of 3iv each of tincture digitalis and syrup of morphia. Sometimes I have used with good results, a rectal injection of Dij chloral hydrate, dissolved in sweet milk.

5th. Diarrhoea is a common and often a very troublesome

symptom. I have relied for its cure upon opium, astringents and careful attention to diet. In hospital practice it frequently occurs that the substitution of a piece of chop, or steak, for the usual beef essences and fluid preparations for the sick, will of itself be followed by better digestion and arrest of the diarrhea.

6th. Hygiene. The rooms of patients suffering from attacks of pneumonia should be freely ventilated. The immense importance of pure oxygen to a patient suffering under a pulmonary lesion, cannot be overestimated, or too constantly considered.

The nurse's attentions should be quietly and cheerfully rendered. The physician should particularly prescribe the diet, and enjoin upon the nurse every duty requisite to the comfort and well-being of the patient. Moral influences are not without benefit to the patient. He can be encouraged to co-operate with the physician and nurse in efforts to cure. I have also sometimes observed, that a cough which was excited by hyperesthesia of an inflamed lung, and not by accumulation in the bronchi, could be very much controlled by efforts of volition on the part of the patient.

The following notes of cases are added because the charts of temperature are lithographed.

#### Case II—Group 2—Pneumonitis (Right.)

Peter Oakley, et. 26; subject to chills during summer and fall, entered ward 18, bed 258, December 18th.

Two days previous had a severe chill, pain in back, below nipple on right side, and high fever, on admittance, pain still persistent, cough, rusty sputa, dullness over lower

lobe, fine crepitation, T. 105.60

Dec. 18th: Crepitation over middle lobe. Patient stated that he had been in the enjoyment of perfect health previous to the year 1862, when after being exposed to the vicissitudes of climate in Virginia suffered with pneumonia of left lung, After recovery he remained in good health until about four months past, having been exposed to malaria has been suffering from the effect of the poison. He was seized with a chill on the 16th, which ushered in the present attack:

Dec. 18th: Evening of admission:

Temperature, 105: Pulse, 140. Number of respirations, - - 44. Therapeutics, R. H. Q. - - 3ii. S. to be taken at once.

Dec. 19th:	Temperature morning, - 103.
	Temperature evening,
	Pulse morning, 150.
	Pulse evening 150.
	Pulse evening, 150. Respiration morning, 40.
	Respiration evening, 38.
	Treatment, Rammonia carb Dii.
	aquae
	Tinct. cinch. co., aa Zii.
	M. S. tablespoonful every two hours.
Dec. 20th:	Temperature morning, 101.
	Temperature evening, 104.
	Pulse morning, 110.
	Pulse evening, 120.
	Respirations morning, 36.
	Respirations evening, 40.
Magatinant	
	ammonia and tinct. cinch, continued. In ev
an anodyne in	jection.

rening

Dec. 21st: Increased peristalsis of bowels, four stools during

the day.

Temperature morning, -- 103. Temperature evening, - 104. Pulse morning, - - -Pulse evening, Respirations morning, Respirations evening, Treatment H. Q.\*

S. teaspoonful three times daily.

R. Liq. ammonia acetat, Tinct. digitalis.

Spts. nitrici dulcis, aa, ... Syrup morphi.

Syrup pruni. virg. aa - - - 3ij. M. S. tablespoonful every 3 hours.

Evening. R. pulv. Doveri gr. x at bed time.

Dec. 22d: Morning patient had considerable hemorrhage, supposed to be from the stomach. Inflammation increasing, crepitant rales heard distinctly.

> Temperature morning, -104. Temperature evening, - - 104. Pulse morning, - -Pulse evening, Respiration morning, -Respiration evening, - 42.

Treatment carb. ammonia and tinct. cinch. continued.

Dec. 23d: Tongue red around edge and covered with a thick coat, dark in centre.

H. Q. so often referred to in this paper is the "Houstus Quiniar" of the hospital. It is a solution of sulphate quinine in peppermint water by addition of dilute sulphuric acid. Each g. fluidrachm contains five grains of quinine and seven and one half drops of tineture opium.

Temperature morning, - 104. Temperature evening, . - 104. Pulse morning, . . . . . 130. Pulse evening, . . . . 134. Respirations morning, - - 44. Respirations evening, - - 42. Treatment B. Quiniae sulph. - - Di. Morphiae sulph. - - - · gr. ss. M. et. dividenda inchart, - · · v.

S. a powder every 2 hours.

Dec. 24th: Patient evidently sinking, pulse quick, tongue coated with dark fur, crepitant rales still distinct,

Temperature morning, - - 105. Pulse morning, - - - 124. Respirations morning, - - 42.

Patient died on the morning of 25th of December. Autopsy by Prof. Chaille; almost the whole of right lung involved The three stages were very distinctly shown.

#### Case IV-Group 2.

William Brown, aged 47 years, born in Ireland; a seaman;

entered ward 18, bed 258, Feb. 24th, 1870.

He had left the hospital Sunday, the 20th Feb., having been under treatment 45 days, according to his account, for neuralgia. He was taken Monday the 21st Feb. with a severe chill; this was followed by a fever which has continued up to the present time.

Feb. 25th. The patient complains of great pain over the right side and lies on the left side; his tongue is coated and teeth covered with sordes; odor of his breath very disagreable; sputa of a rusty color; pulse 118, respirations 46, temperature 1034; dullness on percussion over the right lung; friction sound heard over it; vesicular respiratory murmur absent. Bronchial breathing present; the voice intensified crepitant rales absent. The disease was diagnosed: "pneumonitis with pleuritis"; ordered quinine in large doses, flaxseed lemonade and a warm poultice over the chest; Dovers powder at night; sustaining diet.
26th. Tongue coated; pulse 120, respirations 30, temperature

102; friction sound absent; heart pushed to the left of its

normal position; patient lies on his back.

Treatment continued with stimulants added and the best diet in the hospital.

27th. Tongue coated; pulse 120 and intermittent, respirations 30, temperature 1021; subcrepitant rales heard over the lung; treatment, stimulants and sustaining diet,

28th. Tongue coated; pulse 118 and intermittent; respirations 36, temperature 100<sup>4</sup>; extremities cold; body covered with profuse perspiration; treatment continued.

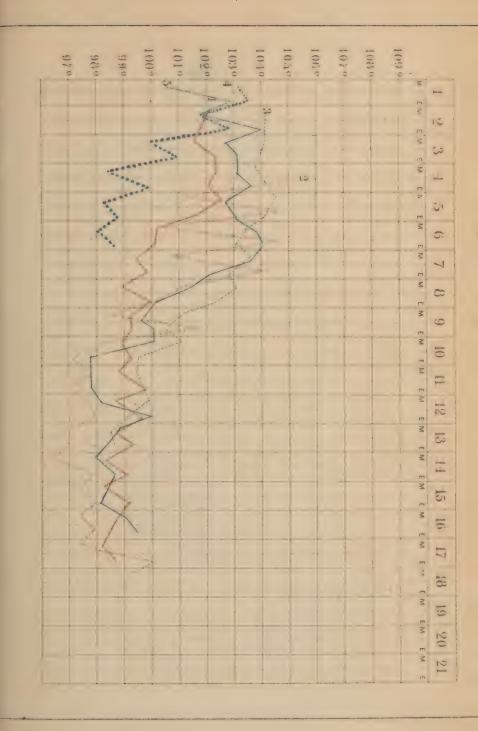
Patient died at 9 o'clock, P. M.

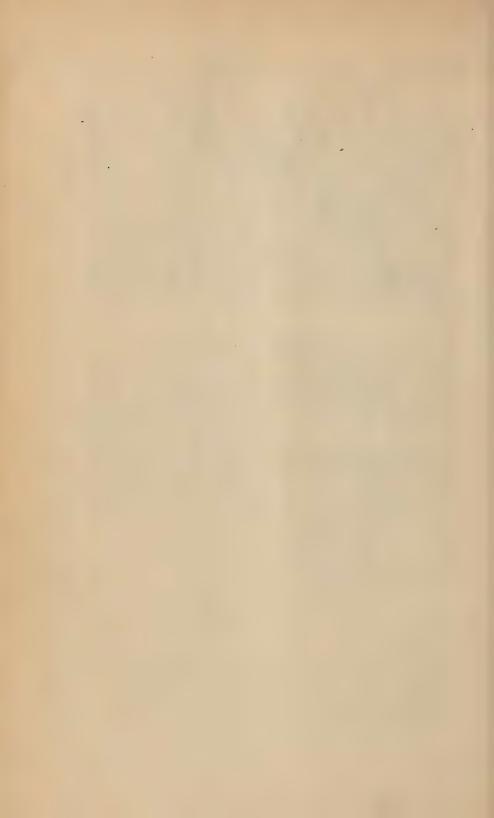
#### Records of Pulse and Respiration-Group 1.

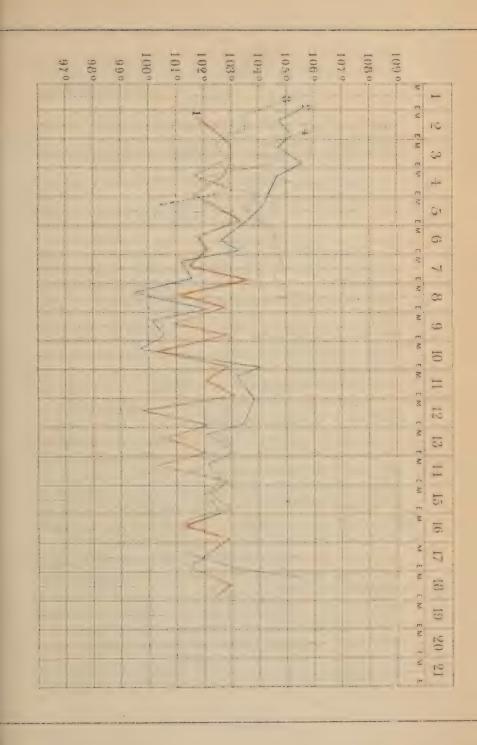
Number 1. M.	16 17	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	DAY.
Number 1. M.																	
Respiration E.																	
Number 2. M.																	
Pulse E.         136       140       134       130       100       100       64       62       68       48       58       72         Number 2.       M.         22       24       22       30       22       18       20       18	22 20	22	26	26	128	30	28	58	28	24	23	22	24	22	26		piration E.
Number 2. M							72	94	116	100	102	100				1	iber 2. M.
Respiration E.												140	136				e E.
Number 3. M.       110     112     110     103     90     64     78     76       Pulse E. <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>18</td><td>22</td><td>30</td><td>22</td><td>24</td><td>22</td><td></td><td></td><td></td><td></td><td>aber 2. M.</td></t<>							18	22	30	22	24	22					aber 2. M.
Pulse E.   .	18 17	18	18	16	18	18	18	28	22	30	36	34	38				piration E.
Number 3 M,          30 23 30 38 36 31 30 30 28       Respiration E.			76	781	64	90	103	110	1101	112	110	1				1	ber 3. M.
Respiration E.        29     30     38     36     31     28      36     30       Number 4.     M.     122     110     90     86     78     76           Pulse E.     220     118     100     88     84     80           Number 4.     M.     30     34     24     32     20     20			82	84		92	108	108	104	104	108						e E.
Number 4.     M.     122 110 90 86 78 76			28	30	30	31	36	38	30	23	30						aber 3 M.
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Number 4. M. 30 34 24 22 20 20											76	78	86	90	110	1 122	iber 4. M.
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Respiration E.   30   28   26   24   22   22   .											20	20	22	24	34	30	ober 4. M.
											22	22	24	26	28	30	piration E.
Number 5. M.   100  96  112  120  112  120  114  86  76  70  66  72  66  72  70	76	701	72	66	72	66	70	76	86	114	120	112	120	112	96	1 100	ber 5. M.
Pulse E.   88   100   100   114   120   126   96   80   80   76   68   68   68   68   68   68   68								80	80	96	126	120	114	100	100	88	e E.
Number 5. M.   36   36   40   40   36   40   40   30   28   25   18   24   24   20	25	20	24	24	24	18	25	28	30	40	40	36	40	40	36	36	ber 5. M.
Respiration E.   40   40   48   40   42   33   30   24   24   20   20     26   29	24	20	26		20	20	24	24	30	33	42	40	48	40	40	40	oiration E.

#### Records of Pulse and Respiration-Group 2.

DAY.	-1	2	3	4	5	6	7	8	9	10	11		13				17	
Number 1. M.		114			102	96	96	102	120	108	112	120	112	108		92	120	
													104					
Number 1. M.				30						24							30	
Respiration E			30	28	30	24	36	24	20	24	54	55	22	22		24		
Number 2. M.			150			120											1	
		140																
Number 2. M.				36	38	40	44	42										
Respiration E	]	44	38	40	36	42	42	36					!					
Number 3. M		104	104			104	104	84					108					
Palse E	112	112	112	120	112	112	88	92	96	108	116	108	120	120	120	120	120	
Number 3. M.		40	40	28	4()	32	36	36	32	32	32			32	40	36	36	40
Respiration E	36	48	44	36	36	32	82	41	36	32	36	36	32	40	36	32	34	
Number 4. M.																		
												1						
Number 4. M.							30	36										
Respiration E				44	42	36	32	48										











#### LISTER'S ANTISEPTIC TREATMENT OF WOUNDS, IN-WARDS 3 AND 3½ OF THE CHARITY HOSPITAL OF NEW ORLEANS, DURING 1875, 1876, AND 1867.

UNDER CHARGE OF

#### M. SCHUPPERT, M. D.,

Professor of Operative Surgery and Orthopedics of the New Orleans Charity Hospital Medical College, and Visiting Surgeon to the Charity Hospital.

(Continued from January Number.)

Resection of half of first metatarsal bone, including the whole of the big toe. Prima intentio obtained.

Robert Puls, aged 34 years, born in Germany, laborer, inmate of ward 4½. Patient first noticed in the beginning of 1874, a few months after his coming to this country, a swelling on the big toe of the right foot at the metatarso-phalangeal joint, paining him severely. During November, 1875, the swelling became enlarged, "the skin burst" patient said, and the sore discharged a semi-lucid, mucilaginous liquid of a strong putrid odor. He was treated professionally for some time with no good result; the swelling kept on increasing in circumference and it was impossible for him to wear a shoe any longer.

Patient stated that in the Franco-Prussian war he had been wounded on the foot, that during the time he had been in the hospital, he had suffered erysipelas of the face, with a temperature, as he recollected, of 41° c. and a pulse of 140 beats. The skin around the sore extending over the toe had the appearance of an elephantiasis arabum. I concluded therefore to remove the toe, including all the diseased skin, which could best be effectuated by simultaneously resecting the greater portion of the corresponding metatarsal bone.

The operation was performed on the 10th of April, 1877, while patient was under the influence of chloroform. Esmarch's constricting bandage was applied. Not a drop of blood came away during the operation, but when the band was removed considerable bleeding set in, lasting a good while. Under the constant application of the irrigator, which finally was exchanged with the spray, two arteries were ligated, and



the final arrest of the bleeding was obtained by a close adaptation of the edges of the wound with seven silk sutures.

The first dressing of the wound was removed on the next day. On the 20th the sutures were taken off; on the 28th the ligatures came away and on the 4th of May the patient was discharged. The wound had healed by first intention. No fever had set in. In all seven dressings had been applied.

Compound comminuted fracture of the right femur treated conservatively, the wound healing by first intention. Recovery without shortening of the extremity.

A. Offenbach, 51 years old, from Germany, a painter, was admitted in ward 3 on October 31st, 1874 with the mentioned fracture in the middle of the right thigh. The injury had been caused by the blow of an axe in the hands of an enraged stepson. Patient had lost most of his blood; his pulse was slow and feeble; the skin cold and clammy. Under some administered stimulants, patient rallied soon again. The fractured pieces were replaced, the wound thoroughly irrigated with 5 per cent. carbolic water, and its edges closely united with silk sutures.

The limb was secured by a gypsum bandage and a trap left in it for the application of the anticeptic dressing. In applying the plaster bandage, care was taken to retain a proper extension of the extremity by using the tuber ischii as a point d'appui for counter extension. On the next day a congestion of the lungs set in, a troublesome cough and expectoration of bloody mucus following. The pneumonia which had become developed was finally conquered. On the 7th of November all dangerous symptoms had disappeared. The wound healed by first intention and at the final removal of the gypsum bandage which had been renewed merely twice, perfect consolidation of the splintered bone had taken place, without the least shortening of the extremity. The five sutures were removed on the 7th day. Six antiseptic dressings had been used in all. The patient was discharged 6 weeks after the first bandage had been applied.



Sarcoma Medullare on right elbow; the tumor of twenty-two inches circumference. Amputation of humerus. Healing by first intention.

Wm. Greschner, 19 years old, born in New Orleans, hostler, was admitted into ward 41 on the 10th of September, 1877, with a tumor comprising the elbow of right upper extremity. tumor was ulcerating and in removing occasionally one or the other of the scabs, which had been formed, considerable bleed ing took place. A microscopical examination revealed the character of a true medullary sarcoma.

Patient was 5 feet 4 inches high, with light thin hair, blue iris, of a slim stature, skin of a waxy color; he had always enjoyed good health, his parents were still living, the father suffering much from arthritis. His mother had lately been under my treatment for trismus and tetanic spasms lasting three weeks, and caused by the retention of a mass of alvine matter of the size of a middle sized orange, although almost daily evacuations of the bowels had been obtained.

In the early part of 1876 the young man was playing with some of his comrades, one of whom caught hold of his right hand, bending the arm backwards over a post. Patient felt a momentary pain at the elbow, but gave no further attention to it until later in the year, when he observed a "rising" on the hand, which began to grow slowly. In the spring of 1877 I happened to see the tumor, then as large as a goose egg, with some of my colleagues at the Charity Hospital. The tumor was soft and moveable, and the opinion was entertained that it was of a malignant character, probably an encephaloid. The operation was proposed, but refused by the sufferer. He fell into the hands of some quacks, who promised to cure him. The poor boy suffered the most excruciating pain by their manipulations; so one of these quacks tried to reduce the tumor with an elastic bandage, another with digital compression. Under such irritating treatment the tumor soon began to grow more rapidly, until it finally attained the circumference of 22 inches over the cubit and 9 in length. It had ulcerated on different places which were covered with scabs.

The boy was finally induced by his suffering to submit to an operation. It was obvious that amputation was here alone indicated and as far from the tumor as possible, leaving however sufficient of the humerus to apply an artificial limb.

Operation: On the 12th of September, 1877, patient was narcotized with chloroform and Esmarch's constricting bandage applied. The tourniquet was attached to the axilla. The arm was amoutated 6 inches below the shoulder joint by the circular cut, the operation being performed by my son Dr. Wm. E. Schuppert. The arm was first brushed with soap and warm water, and afterwards washed with 3 per cent carbolic water. About 4 inches of the skin with the superficial fascia still attached, were saved to cover the stump. The edges of the sawed off bone were besides covered by a flap of periostium. The humerus had been severed 4 inches above the limit of the tumor. In cutting through the tissues, about one-half pint of dark blood came away from the tumor in a gush. After the removal of the arm the main artery was ligated. In removing of the tourniquet a number of small vessels bled profusely so that not sufficient artery forceps were at hand to close temporarily all of the bleeding vessels. In order to save blood the axillary artery was compressed, whilst the arteries to which the forceps were attached were ligated and the balance of the bleeding vessels secured afterwards in the same manner.

This method deserves special mention. Having a dozen of such artery forceps on hand, they can be applied quickly and the loss of much blood prevented, which otherwise will happen, if artery after artery is taken up in ligatures. These instruments may also be used advantageously in operations where Esmarch's apparatus cannot be used; for instance in operations upon the face and neck, or in amputations of the breast. The operation can go on and no time is lost with the application of ligatures during the cutting. In the present case 7 antiseptic silk ligatures were so applied and several other small bleeding vessels closed by torsion. The oozing of blood from the capillaries was not as profuse as commonly observed in the application of Esmarch's apparatus and I believe the cause of

it had to be looked for in the short space of time used in its application and the celerity of performing the amputation. After the ligation of the bleeding vessels, the wound was thoroughly irrigated during nearly one-half of an hour, with 5 per cent. carbolic water; a suggestion which may prove service able where prima intentio is desired. In closing the wound with five silk sutures, two disinfected indian rubber drains were inserted, covering the whole surface of the wound and were cut off close to the skin. The sutures were covered with a protective and the antiseptic gauze bandage, the whole of which being surrounded with an Indian rubber plate to make it perfectly airtight.

On the following morning the dressing was removed and exchanged under spray with another, secured in the same manner. On the 5th day the sutures were removed, the wound having healed by first intention; the two only spots open corresponded with the drains, which were also taken out on the 8th day, and the fistules found closed 3 days later in changing the dressing. Some of the ligatures remained beyond the time observed in such cases, probably from having taken in some fascia. Five antiseptic dressings in all completed the cure. The temperature had never risen above 38.5 c. during the first two days, after which it went down to 37° c.; the pulse never was over 100 beats. This operation may be considered an ideal one under Lister's method. The stump seen 4 months after the operation had attained a pointed form, but no return of the disease is up to this time (April 5th, 1878) observable.

Shotwound of left hand. Amputation of forearm. Recovery.

John Ward, alias McGuire, a native of Ireland, was admitted into ward 3 on February 26, 1876. He stated to be 30 years old and a moulder by occupation. At the hospital he was placed under the surveillance of the police, being suspected of having tried to kill a man. Having fired off an old defective double shot gun, which had been loaded and overcharged by another, who had hired McGuire to kill the man, thinking prob-

ably thereby to kill two flies with one blow and getting rid of his obligations to the would-be assassin, the gun had exploded; but whilst thereby he missed his aim his own left hand was shattered to pieces. McGuire went directly from the spot where he had fired the gun, to the hospital, where he arrived at 3 A. M., and was found by the police who had correctly judged of his whereabouts. Arriving on the morning of the 26th of February at the hospital, I met the patient, in bed with his left hand covered by a bloody bandage. In removing the bandage and examining the destruction, I thought that an immediate amputation was indicated. Not so thought the house surgeon, and so the operation was delayed for a couple of days until the danger of a further postponement became apparent. Repeated hemorrhages took place, which finally caused the necessity of an amputation which, was performed on the 29th of February, in separating the forearm in its lower third, forming a flap from the dorsal part of the arm. At the time of the operation patient suffered a high fever, temperature 105° F., which fever continued for several days and ended with the formation of a large abscess near the shoulder joint. The antiseptic treatment, as a matter of course, could not be expected in this case to have the favorable result, almost exclusively experienced in all my other amputations. The wound healed slowly and on the 20th of March patient was transferred to the parish prison, where the wound finally healed.

Traumatic Injury of left foot. Gangrene. Amputation of left leg.

W. Kersten, age 17, born in this city, clerk, was admitted in ward 4, October 9th, 1874, having his left foot injured by a falling log, a heavy piece of timber.

"Removing a handkerchief, with which the foot was bandaged, free hemorrhage had set in from a wound on the dorsal surface of the foot, which bleeding was controlled by the application of compresses. On the subsequent morning the foot having swollen, the compresses were removed, but hemorrhage reappearing, they were readjusted."

When I saw the patient on the morning following the injury, I was informed of the foregoing statement. Removing the compresses, no bleeding took place, but the cellular tissue on the dorsal and plantar surface was infiltrated with blood. Cold applications with carbolic water were ordered and some morphine syrup given. On the 11th a slight discoloration and loss of natural heat of the foot was noticed; pricking the second and third toes was not felt by the patient. The cold dressings were discontinued, instead of which the foot was enveloped in warm flaxseed poultices; besides five grain doses of quinine were given morning and night. In the evening the discoloration had extended to both sides of the foot and under the heel. October 12th the line of demarcation of the ensued gaugrene had formed. The flaxseed poultices were continued, with three grains of quinine three times daily and at night a dose of oneeighth grain of morphia given during the next five days; the foot was often washed and disinfected with carbolized water. On the 19th, the slough had detached itself from the plantar surface exposing the denuded tarsal, metatarsal and phalangeal bones; the line of demarcation extending to the middle of the dorsal surface from within outwards. The patient, who up to the present had taken food, complained over entire loss of appetite and general discomfort. No hope being entertained to preserve the foot, amputation was decided upon and patient belonging to the pauper class it was thought best to remove the limb below the knee, to which patient willingly consented. On the evening (temp. 102° F., pulse 125), resp. 26 being restless and nervous & grain of morphia was injected intermuscular.

October 20th. Patient was removed to the amphitheatre at 1 o'clock P. M., and after narcotization with chloroform was obtained, Esmarch's apparatus was applied and the leg amputated below the knee by the circular method. The loss of blood did not amount to over three or four ounzes, half of which was due to the removal of the India rubber tubing in order to discover the posterior tibial artery, the anterior being already ligated. The skin flaps did not present a healthy appearance. It was dressed with carbolized charpie and strapped with adhesive plaster. One hour after the operation the tem-

perature was 97, pulse 96, respiration 29. During the night some oozing of blood had taken place; the patient complained of pain in the imaginary big toe of the amputated limb. One-quarter grain of morphia was injected subcutaneously. Temp. 98°, pulse 100, resp. 26.

October 21st. The oozing of the sanguineous fluid having ceased, the limb was not disturbed. Nourishing diet was ordered and the quinine (5 grains three times daily) continued. Patient complained of the odor of chloroform still being evolved from the lungs. Temp. 102.5°, pulse 124, resp. 24. On the evening 1-6 grain of morphine was injected.

October 22d. Dressing removed and stump freed from all bad odor by irrigation with 3 per cent. carbolic water, dressed with mosquito netting previously carbolized and covered besides with oil silk. Patient's appetite had returned and he had rested comfortably during the night. Temp. 101°, pulse 115, resp. 21. In the evening, temp. 102. One teaspoonful of syr. morph. given.

October 23d. Felt better than at any time since his admission. Stump free from all bad odor, dressing therefore not disturbed. Temp. 100° F., pulse 100, resp. 23. On the evening the temperature increased to 102° F., pulse 120, resp. 25. At bed time 1-6 grain of morphia was given.

October 24th. Dressing removed on account of some accumulation of fluid upon the silk. Temp. 98.5, pulse 100, resp. 26. In the evening the usual hypnotic was withheld. Temp. 100, pulse, 102, resp. 23.

October 25th. Dressing renewed. Temp. 99°, pulse 100, resp. 22. In the evening temp. 99.5, pulse 102, resp. 24: 1-6 grain morphia given.

October 26th. Temp. 99, pulse 102, resp. 24. Evening Temp. 99°, pulse 100, resp. 22.

Nov. Sth. Dressing removed. The temperature since the 26th of October had oscillated between 98° and 99° and the stump had been dressed every three or four days. It was healing slowly by continuing supuration; the ligatures had come away late. Some sutures had cut through and

were removed early, seeing no tendency to healing by first intension. The wound finally closed by the end of the month of November. This was one of the first cases with Lister's antiseptic method, but very defectively applied and therefore the results not adequate to the later ones.

Vascular tumor of the larynx. Tracheotomy. Final disappearance of the tumor by injections with Ergotin.

Henry Rohrin, 38 years of age, from Germany, cook, was admitted to ward 3, on October 16th, 1875. The patient stated that about three months ago, he felt a small tumor, which he pointed out to have been situated at the superior portion of the left side of the larynx. It was at the beginning painless, causing no inconvenience, but increased in size till about the middle of August, when the patient began to feel some difficulty in swallowing. He soon began to suffer from dyspnoea. The tumor increased downwards, and towards the right side of the larynx. No pain was ever felt in the tumor. Two weeks before his admission into the hospital, patient began to spit blood mostly every day, but never much at the time, the difficulty in swallowing and breathing gradually increasing. The man asserted to have been always healthy, having never suffered from syphilis.

Status praesens: The tumor occupies both sides of the upper portion of the larynx, projecting anteriorly. It is attached to the larynx and partially adherent to the surrounding tissue. It is situated above the thyroid gland, but entirely independent of it. On both sides of the larynx it forms prominences of the size of a pigeon's egg. It is vascular and increases rapidly of late. Patient bleeds from the mouth, which blood seems to come from the tumor.

Operation: On Oct. 17th, to overcome the increasing dyspnoea and threatening asphyxia, the operation of tracheotomy was performed and a silver canula introduced.

The treatment of the tumor after the operation, consisted of injections into the body of the tumor on both sides of the larynx, with Bonjean's Ergotine (1 in 10 parts of water).

Oct. 30th. Patient is doing well, the tumor is decreasing in size rapidly. Some secretion coming from the tumor and being examined, contained oil globules and cells. The man was discharged perfectly cured at the end of November, with the wound in the trachea closed.

A true bony ankylosis of lower jaw. (Ankylosis mandibulævera).

Resection, near the joint on right side. Recovery with a useful jaw. Ligation of right carotid artery called for by an accidental injury, six days after the operation.

Ah Sam, 48 years old, a Chinaman, was admitted into ward 3 on the 19th of May, 1877, with a complete ankylosis of the jaw. Ignorant of any other language but his native tongue, his previous history remained partially obscure. The lower four incisor teeth were wanting, through which opening he was fed. An extensive scar on the right side of face and neck laid the idea at first near, that here the cause of the ankylosis might be found, but this was not so, since the sear had been produced by the explosion of a coal oil lamp after the ankylosis was already present. Alike the true nature of the ankylosis, the cause of it remained yet dubious. Patient stated that in fermer years he had had the "pox." He had also suffered the amputation of his penis for a venereal affection. He was recognized as a former inmate of the hospital. Two years previous to his present admission he had been under the treatment of one of the visiting surgeons of the institution, who had taken the ankylosis for a muscular contraction and had tried to force the entrance into the mouth with instruments, but with no other result than knocking out the incisors. The nature of the ankylosis, as I stated, being still doubtful and no adhesions or contraction of the mucous membrane being observed, I concluded first, partially induced by the diagnosis previously made by my colleague, to sever subcutaneously the masseter and temporales muscles, which was executed in two succeeding operations on both sides of the face, yet without thereby, even with the help of Heister's mouth speculum, being

able to move his jaw. The negative result of these operations convinced me, in having to deal here with a true bony ankylosis.

On the 19th of May, patient was narcotized with the object of performing a partial resection, of the right condyle of the inferior maxillary bone. A vertical incision was made opposite the tragus of the ear, having the neck of the condyle in its midst, and ending about 25 ctm. below its articulation. After dissecting back the integuments I applied the chisel to cut out a wedge shaped portion of the bone. The operation was accomplished properly under Roser's method of the three handed chiseling, i. e., whilst I directed the sharp point of the chisel my assistant was using the hammer as commanded. This is a practical method which like all others, coming from that practical surgeon, ought to be well received and adopted by the profession. It happened at the end of the operation that my assistant thought to feel in the wound still a sharp point where the bone had been resected, and I told him to take it off In using the chisel the little splinter gave away too easily, whereby the instrument under the stroke of the hammer went deeper than intended. The consequence was a profuse hemorrhage, which was temporarily arrested by plugging up the wound with carbolized jute. This unfortunate accident can better than any other speculative reasoning prove the practicability of the three handed chiseling. Certainly this accident would not have happened if another person had undertaken the act of hammering, while the operator had directed the chisel. An operator cannot well at one and the same time keep his eyes on the field of the operation and on the back of the chisel, which he is using: he will occasionally miss the latter and strike his knuckles, when his eyes are drawn to the place he operates upon. If the history of this case would not present any other moment of interest, the opportunity here given me, of making the profession acquainted with the method described would be of sufficient recompense.

Immediately after the resection of the wedge-shaped piece from the neck of the lower jaw bone, I was enabled by the introduction of Heister's mouth speculum between the teeth, to open the mouth without any force, to a considerable distance; the molar teeth of the upper and the lower jaw could be separated from each other, 2.5 ctm. (one inch). A considerable swelling was hereby observed to take place on the right cheek, caused by the separation of the previously divided temporal muscle.

A cork of sufficient size was now introduced between the two maxillary bones to keep the mouth open for a while and the patient directed to remove and reintroduce it at different times during the following days. The operation as well as the after treatment were executed under Lister's antiseptic method. Repeated hemorrhages, which occurred under the dressing of the wound, made it finally necessary to employ other means than merely tamponing the wound. A hemorrhage setting in, even after a tampon had remained five days in its place, admitted no other idea, but that by the slipping off of the chisel, mentioned above, the internal maxillary artery had become injured. It was therefore resolved to ligate the corresponding carotid artery, which was executed by my son, Dr. Wm. E. Schuppert. From this time, all further bleeding ceased, the wound could now be properly dressed and soon healed. Patient when discharged from the hospital could open his mouth to the extent of 5 ctm. (two inches).

Two months later, the man was readmitted with an extensive swelling on the right cheek and neck, which he had contracted whilst working as a field hand. By poulticing the swollen parts with flaxseed meal during a few days, an abscess formed extending down the neck. It was opened and with a considerable quantity of pus, a few pieces of necrosed bones were removed. These necrosed pieces of bone had become separated and had by their weight been displaced, coming out of the opening at the neck of the patient. The ligation of the carotid artery, whereby the afflux of blood to the parts operated upon, had become diminished, might additionally have influenced the extent of the necrosis. It may be stated besides, that the mobility of the jaw during the two months had not suffered, was not diminished. Interesting it may also be to mention an accident, which happened during the narcotization of the man, when he was first operated upon. He had been out of the hospital by permission on the day preceding the operation and whilst out had taken a hearty meal, which came near killing him. During the time chloroform was administered Ah Sam began to vomit, yet having only a small space through which to discharge the contents of his stomach, the cavity of his mouth became soon overfilled, so as to cause obstruction for the air to enter. This obstruction was still increased by the nature of the contents, which had to be removed through the narrow passage which the absent incisors had left. It was near a soup plate full of tendinous meat, which was extracted with a forceps and which the man could have introduced into his mouth only under great difficulties, and which as already stated, came near asphyxiating him.

I will add here a few words about the different kinds of ankylosis, their pathological anatomy and the various methods of operation. It is hereby of great importance to follow a proper semiotic analysis. The pathological anatomy is almost wanting to distinguish cases of a true bony ankylosis from such as are of only a fibrinous character. As a matter of course, the different proceedings against such diseases depend upon the character of the ankylotic joints. The narcosis may under circumstances greatly assist in defining the real nature of an ankylosis and so may the anamnesis of the disease; still it cannot be denied, that cases may happen, where even with such elements of examination, all doubts of the true character of such diseases will not be removed.

An ankylosis of the jaw may be produced by adhesions of the mucous membrane of the cheek, or by connections of fibrous bands with the gums; it may be the consequence of a tonic contraction of different muscles, as the masseter, temporalis, or internal pterygoid muscles, caused by preceding inflammatory processes, finally comprising the articulation. The ankylosis may be one sided, or involve both joints. We meet with recorded cases, where ankylosis had been considered the final result, in consequence of constant rest during years of one, or the other joint.

That the method of operating depends entirely upon the character of the ankylosis, is obvious. If it should be ascer-

tained, that the ankylosis was caused by an obliteration of the joint, by a bony union of the head of the condyloid process with the glenoidal cavity, the question would still arise, which method to select, in establishing even an incomplete mobility of the joint. We know that all such different implements, as screws, elevators, etc., whilst the patient is narcotized, do not give a favorable result. The teeth, and even the jawbone may thereby be fractured, without resulting in the cure of the ankylosis. The only proper remedy left us, consists in securing the establishment of an artificial joint. Herein all surgeons of any reputation are unanimous, though the ways and means to obtain this are different. Claude Bernard in 1838 was the first to recommend the establishment of an artificial joint in bony ankylosis of the jaw, according to the method proposed and used by Rhea Barton in the hip-joint. In all cases, which had been operated upon afterwards, be it that the bone was simply divided, or a porton cut out of it, the common characteristics hereby consisted in attacking the bone from outside. Dieffenbach, the celebrated surgeon of Berlin, was the first to recommend the establishment of an artificial joint in attacking the bone from inside the cavity of the mouth. Dieffenbach, in using hammer and chisel, recommended this method in all cases of uncomplicated real bony ankylosis of the jaw, because, as he said, the danger of wounding important parts would thereby be less. It is singular, that our literature has so far only cases of a true bony ankylosis on record. One dozen cases will probably cover the last two centuries and most of these belong to earlier times; the latest records are almost barren of cases of this nature. I will therefore translate one of these reported cases in extenso, the case bearing besides, in many respects, great interest.

"Dr. W. Grube, of Charkow, published in Langenbeck's Ar chiv., Bd. IV, page 168 (1863), the following case of an Ankylosis mandibulæ vera in a woman 21 years of age. The disease was of 15 years standing, patient having been nourished imperfectly all that time through a small opening, between the alveolar edge of the upper and lower jaw, at the place of the incisors. The cause of this ankylosis had been an abscess near

the left temporal bone. The ankylosis had undergone manifold treatment, but without success. The left half of the lower jaw-bone was atrophied; the articulation was surrounded with ugly looking cicatrices, the skin adhering to the bone; the alveolar portion of the atrophied jaw bone rested behind the corresponding part of the upper maxilla. The room between bone and cheek was very limited, so that a finger here introduced, could not be moved about much. The whole cheek felt like if it was stretched, but agglutinations of the mucous membrane could not be detected. Every trial to bring on motion of the jaw failed, although even executed under the influence of chloroform. No further doubt existed about the total loss of the articulation, and that ankylosis had been brought on by caries. With reference to the other corresponding joint, nothing could be ascertained, if it had participated, for instance, through sympathy, as occasionally happens, or not."

The difference between this case and the one described by me, is obvious. I could not find in mine a pre-historical point, with regard to the initiatory ailment, nor were such marks present, which would have indicated the nature of the ankylosis with any degree of certainty. No deformity was seen in any of the disarticulations; on the contrary, the ankylosis seemed to be rather fibrous, a contraction resting in the masseter and temporalis muscles.

Dr. Grube in his operation selected the method of Dieffen bach having the object in view of causing the smallest injury, at the same time insuring the easiest mode of restoring mobility. Drawing the lips to the side, at the corner of the mouth, the chisel directed by the left index finger, was placed against the ascending ramus of the jaw, as high as possible, and driven in with the hammer until all resistance had ceased. After the bone had been divided, Dr. Grube tried in his case to pull the lower jawbone downwards, but frustaneously. "It seemed to me," he says, "that the cause of this resistance had to be looked for in the coronoid process having lost its upper end, since the chisel had been directed from the front and from below backwards and upwards, and the resistance had been comparatively trifling. I thought that the chisel had been driven into

the incisura semi-lunaris, between the coronoid and the condyloid process. In order to insure the separation of the condyloid process, the chisel was introduced again, and directed this time more horizontally, in order to act in a straight direction from forward backwards. The hammer was called into requisition again, meeting this time a greater resistance. The hammering was continued until the sharp edge of the chisel was felt in the soft parts. (!) Forthwith the hoped for effect was obtained, the lower jaw became moveable, and could be removed from the upper jaw a distance of one-half inch. When the mouth speculum of Mathieu was introduced between the incisors, and the screw placed in action, the effect could even be increased. Still the resistance left was so great that the teeth could not be separated beyond one inch, in using even greater force. The wound was cleaned and a charpie tampon introduced behind the left molars. On the following day patient suffered some fever and pain at the place of operation, which was swollen and indurated. These symptoms lasted nearly one week. On the 4th day gymnastic motions were initiated. A month after this, patient was re-admitted into the hospital, since no further improvement had been obtained, and the separation of the jaws not having advanced beyond one inch. A contraction of the masseter muscle was thought to exist, whilst patient was under chloroform. The muscle was therefore divided subcutaneously in entering a straight tenotomy knife below the zygomatic process. After this the jaws could be separated sufficiently wide, so that further action did not seem to be indicated. Gymnastic motions were again advised. From time to time slight swellings were observed; also angina took place repeatedly, the patient enduring considerable pain, still without affording a separate treatment.

The separation of the jaws remained the same; it did not increase over one inch under all the gymnastic motions, which were continued nearly one year, and found to be absolutely necessary during the first few months after the operation. The masticating of hard substances supplanted at the end all other utensils."

It is more than probable, that in Dr. Grube's case, the sep-

arated end of the coronoid process with the temporal muscle, had retracted beneath the zygomatic process, and it is hardly doubtful, that this had contributed to the remaining freedom of motion of the lower maxillary bone.

I have given the history of this case so minutely, as also the views of the operator, for the sake of comparison with the results of the operation, which I had performed upon the Chinaman.

From a close comparison it will become obvious that the method of Dieffenbach is objectionable in more than one point. The chisel cannot be used here properly, i. e., directed with sufficient security for the separation of the bone, without danger of wounding important organs; moreover the ramus ascendens of the lower maxilla, will in the most cases be in the way of getting at the proper place, where the bone has to be divided. A simple division of the bone cannot besides secure the permanence of an artificial joint. The pains and the long time afforded for the gymnastic experiments, are further drawbacks of the operation. Finally the wounding of the mucous membrane being frequently followed by angina and the obtained limited separation of the maxillary bones, prove this method to be of an inferior character.

Dieffenbach's method cannot be favorably compared with the proceedings, which I had adopted. The security of the three handed chiseling, the certainty of producing an artificial joint with little exertion and hardly requiring any after-treatment but the dressing of the wound, besides the fact of having the whole operative proceedings under eyes, with no important organ being injured, will secure to the latter method the superiority beyond question.

(To be continued.)

# CASES IN COUNTRY PRACTICE.

By J. E. WRIGHT, Columbia, La.

The following crude remarks in reference to cases treated here, and in this vicinity, have been hastily thrown together at

intervals and odd times, in a busy aud laborious country practice, extending over an area of more than 100 miles in circumference. In performing this work, I have been actuated by a hope, that some of my brethren in the profession, who, like myself, are situated remotely from the great medical centres, and have no means of dividing their onerous responsibilities by consultation with others, are glad to avail themselves of practical suggestions, and clinical examples—furnished by laborious co-workers in the great fields of practical medicine and surgery. I have also indulged the hope that the attention of others, more competent than myself, may be attracted to the subjects herein discussed, and that, thus, more light may be shed on some of the questiones vexatæ, involved in the treatment of this class of cases.

Case 1. Jerry McGhinty, colored, a stalwart farm laborer, about 40 years of age, applied at my office for treatment, in the autumn of 1872. His case had been treated for several months by an eelectic practitioner, who, vaguely diagnosed "kidney' disease, and dosed him with diuretics "ad nauseam usque.' Symptoms. Urgent and irresistible desire to micturate. Urine dribbles away by drops, with painful tenesmic effort—bladder distended—skin exudes a copious greasy-feeling sweat, body exhales a urinous odor—countenance anxious, despondent and distressed—insomnia, anorexia, irritative fever—mal-assimilation of the little food taken, and considerable emaciation.

Diagnosis. Mechanical obstruction of some kind, to the flow of urine.

Treatment. An immediate attempt to relieve the distended bladder by eatheterism, with a medium sized tube, revealed the existence of a firm *stricture* just in front of the bulb of the urethra. After a prolonged effort, the smallest sized catheter, was, with great difficulty passed into the bladder, and a quantity of semi-putrid urine removed, to the great relief of patient. The tubes were now used daily, progressively, but slowly augmenting the size, until sufficient dilatation was accomplished, to admit the passage of a fair stream of urine.

The accompanying cystitis, fever, insomnia, anorexia, and all other local and constitutional symptoms, promptly disappeared under simple treatment, after relief of the bladder.

Patient was so well content with his improved condition that, in spite of remonstrances, he insisted on going home, distant some 30 miles, declaring that he was well. Provided with a suitable instrument, and instructed how to use it, he left. Feeling no sort of inconvenience, he soon neglected to pass the instrument as advised, and in a few months he was brought back, greatly reduced in flesh and strength, and the perineum, scrotum, and surrounding parts, a mass of abcesses from urinary infiltration. Not a drop of urine now escaped from the meatus, and it was quite impossible to pass an instrument of any kind into the bladder, so firm and unvielding was the contraction just anterior to the bulb. The urine all dribbled away through fistulous tracts formed in the perineum and contig. uous parts, and patient's condition was miserable to the extremest degree. Being about to start to New Orleans, we took Jerry along, and on arrival, had him promptly conveyed to professor T. G. Richardson's office, where the doctor tried most skillfully and perseveringly with various instruments, to open a passage through the natural channel into the bladder. All efforts of this kind however proved unavailing, and Dr. Richardson kindly consented to operate next day. This he did, with the most consummate skill,—performing perineal section through a mass of suppurating and infiltrated tissues, reaching the urethra without a guide, and freely dividing the constricted parts, and promptly placing a full sized catheter through the urethra into the bladder, thus evincing a minutiæ of anatomical knowledge, manual dexterity, and surgical skill, which amidst the complications obtaining, was truly marvelous. Without pausing to detail the future progress of the case, the after treatment of which was conducted strictly in accordance with the suggestions of Professor Richardson, suffice it to say that, the operation was completely successful, patient regaining a robust state of health in an incredibly short space of time. Throughout the stage of convalescence, and up to the time of his discharge, patient could easily pass the largest size catheter. He was furnished with a full sized instrument, when he went home, and urged never to pass a week without introducing it one or more times. This patient, during his treatment, had acquired

a degree of skill in manipulating the catheter, which enabled him to introduce it himself, with great ease and facility. For four consecutive years, this man now got along finely, enjoying perfect health, and having no trouble whatever, in voiding his urine. In the winter of 1877, he had the misfortune to get his house burned, and thus lost his catheter, but believing himself permanently well, he neglected to apply for another, and thus ceased to use the instrument altogether. He noticed, some time after this, that the stream of urine grew smaller but unfortunately, failed to heed the monition. He also observed that riding on horse-back, irritated and made the site of the old stricture tender. At length in April, 1878, he had a sharp attack of malarial fever, during the progress of which, micturition became rapidly more difficult and painful, until almost complete retention supervened. In this condition, he was again brought to me, with distended bladder, constant imperative desire to urinate, continued pyrexia, thirst, loatheing of food, haggard and distressed countenance, emaciation. &c.

He had made various and prolonged attempts to permeate the stricture before reaching me, with a coarse knitting-needle, bent into the form of a catheter, and had thus tunnelled out a false passage, and lacerated the contiguous parts severely. His severe and unremitting suffering, prolonged loss of sleep, despondency and dejection, now presented a picture of despair truly formidable to contemplate. All efforts to relieve the bladder, with various sized instuments, and with the adjuncts of chloroform, the warm hip bath, &c., &c., at first proved abortive.

At length however, after almost concluding to abandon the effort and aspirate the bladder, a very delicate instrument was passed.

This was confined in situ, for several hours, and next day a size larger was used, with less difficulty. Progress was thenceforth rapidly made in the process of dilatation, patient meanwhile, rapidly regaining his wonted health.

It will be observed, by a careful consideration of the history of this case—that some of the dogmas of a justly distinguished

1878

Edinburg professor—the late James Syme, are not corroborated. This truly great man held, that no stricture is impermeable where a single drop of uriue can pass, and that division of stricture by external perineal section, with a grooved staff as a guide, is almost *never* followed by relapse, proper precautions being odserved for a reasonable time.

In this case Professor Richardson performed perineal section, without a guide being passed through the constricted part, it (the stricture) being so completely impermeable, that not a drop of urine had passed the meatus for weeks, the bladder being emptied entirely through fistulous openings in perineum.

After the operation, this man passed a large catheter, with perfect ease, for more than four years. But soon after ceasing to pass the instrument contraction of the thoroughly divided stricture began, and continued progressively, until it was barely possible after long and patient manipulation, to pass the most delicate instrument.

This, then, is one case of external perineal section and thorough division of the stricture, in a stout able bodied man, in the ripe vigor of manhood's prime, free from venereal or other constitutional disease, of temperate and regular habits, which has relapsed from no other known cause, than ceasing to pass a eatheter, after having done so for upwards of four years.

Case 2. Was requested by letter from her medical attendant, Dr. D— in September, 1877, to visit Mrs. J., who for some time, had undergone a variety of treatment for supposed "uterine disease." This patient resides in Catahoula parish, about 30 miles from my office; is the wife of an intelligent, well to do farmer, is a native of Louisiana, 30 years of age, the mother of one child, (a sprightly well developed girl, aged 5 years) is tall, well formed, fair complexion, blue eyes, a profusion of light auburn hair, pleasing expression of face, sanguine nervous temperament, graceful and refined in her manners, and decidedly above the average of those in her station in life, in point of intelligence. She enjoyed fine health (she says) in her girl-hood, and became regularly menstruous at about 15. Was married at 19,—did not conceive until about 24—though perfectly healthy, and gave birth to her only child,

July.

in her 25th year. She states that her parturition was laborious, prolonged and difficult—had post partum hemorrhage, until dangerously exhausted,—thinks the rough handling and rude polypharmacy of the attending mid-wife was greatly to her detriment, and that she had a narrow escape with her life. Her convalescence was tedious and unsatisfactory, after her accouchment and the period of lactation, which was prolonged, one of debility and suffering.

During this time she was dosed and doctored with great assiduity by numerous old women and several medical men, with no appreciable benefit from either. After weaning her child her general health improved some, and the catamenial discharge, absent during lactation, was re-established with great regularity, but dysmenorrheal in character, each recurring period being a season of sleepless anguish, for days and nights together. About two years ago the patient observed that the menstrual excreta gradually became very dark colored, less fluid in consistence, semi-putrid and most disgustingly offensive, the odor being peculiarly sickening and cadaverous. The inter-menstrual periods were now attended with a most profuse and fætid leucorrhæa, mal-assimilation, anorexia, anemia, emaciation, ædema of lower extremities, and general prostration. were marked and rapid sequences, and her physician, Dr. D-, diagnosed malignant disease of the uterus. In this deplorable condition, with abdomen enlarged to the size of the sixth or seventh month of gestation, I found her at my first visit. The lower extremities being ædematous, patient exsanguinous and prostrated, her medical attendant had concluded, not without reason, that the abdominal enlargement was ascites. Tactile and specular examination, conducted with great care and patience, revealed hypertrophy and stone-like induration of the cervix uteri, with severe chronic endometritis, the canal of the cervix being so contracted as with difficulty to admit the passage of a fine probe. The vagina, hot, tender and bathed in a most foul and fætid discharge. The womb, engorged with sanguinous infiltration, had sunk low down in the pelvis, the os presenting just within the vulva. Whenever the patient assumes the erect position she suffers intensely with lumbar pain and a most distressing sensation of dragging weight through the hips and pelvis.

Special attention being now directed to the abdominal enlargement, it was found by careful tactation, and manipulation, that a distinct tumor, susceptible of complete isolation, by the fingers, and clearly defined in its boundaries, occupied the abdominal cavity, and had a marked inclination to the left side. It was elastic and yielding to pressure, but slightly sensitive, smooth and even to the touch, and conveyed a distinct impression of fluctuation. Close interrogation of patient now elicited the statement, that ever since her accouchment, she had felt an uneasiness, often amounting to pain, in the left iliac region, and that more than one year ago, she discovered "a lump" there, about the size and shape of a small orange. This lump, first observed in the left iliac fossa, had slowly and progressively increased in size ever since, until it had attained its present bulk. In the supine posture, there was no flattening of the abdomen by gravitation of the fluid to the sides, but a well defined rotundity was observed instead. There was no pouching or fluctuation felt in the cul-de-sac of Douglas by careful vaginal touch. There was no evidence of hepatic, renal, or cardiac disease,-and although there was ordema of feet and legs, that symptom was clearly traceable to anamia and general debility. With these facts before me, it was now easy to make the differential diagnosis between ascites, and ovarian dropsy. Having accomplished the diagnosis to my entire satisfaction, I now explained to the lady the nature, and pathological character, and gave her a succinct account of the different operative procedures—for relief and cure, of cases of this kind. She seemed to shrink with horror at the bare idea of ovariotomy, protesting that death itself had no greater terror. But she regarded, with singularly hopeful favor, the operation of aspiration and injection of the cyst. As it was necessary to prepare her system by preliminary treatment before she could, with a reasonable prospect of safety, be subjected to an operation, I proposed that, during this preparatory treatment, I would consult Professor Richardson, of New Orleans, and be governed in my selection of the operation to some extent, by

his suggestions. This was assented to, and treatment appropriate to her uterine trouble, and improvement of her general health, was at once entered upon. The local and constitutional affections were greatly ameliorated and improved, in a few weeks. I had corresponded with Dr. Richardson, and he strongly deprecated aspiration and injection of the cyst, and commended ovariotomy. Before receiving Professor Richardson's letter however, I had yielded to the importunities of patient, and operated by aspiration. She was placed in a recumbent posture, strongly inclined to the left side. so as to introduce the needle of the aspirator into the most dependent point of tumor. Four pounds and two ounces, by accurate measurement, of a dark coffee colored fluid were withdrawn, under chloroform, and one ounce of a dilute solution of iodine injected through the needle with a small glass syringe, the sack well kneaded, care being duly used to prevent the point of the aspirating needle slipping from the cavity of the cyst. Patient was then removed to her bed. wound closed with a strip of plaster, and a broad abdominal bandage applied. Slight pyrexia occurred on the third day, with some tenderness, though no tympanitic distention of abdomen. These symptons promptly yielded to strict recumbenev. Warm stupes to abdomen, opiates, &c., in a few days. Detergent and anti-septic washes per vaginam, cotton lint saturated with carbolized glycerine, applied through a speculum to cervix and os uteri, dilatation of canal of cervix with sponge tents—painting cervix with strong tinct, iodine, and a thorough course of chalybeates, soon releived both local and constitutional symptoms, and patient six weeks after operation, was able to visit in the neighborhood, attend church, &c.

The leucorrhoa and other unpleasant symptoms are releived, general health good, and at this writing, seven months after operation, no sign of a return of the disease, or other untoward symptom has occurred. In conclusion I may remark, that before operating in this case, I was clearly satisfied that the cyst was unilocular, and I was sustained in adopting this method by the experience of such men as West, Sympson, Tyler Smith and Grailly Hewitt.

Remarks.—When the magnitude and danger of the operation of ovariotomy are considered, when even the most skillful and experienced, from the days of McDowell, down to the present, regard it as a dernier resort, and one fraught with extreme danger, under the most favorable circumstances, when, in spite of the brilliant achievements of a few exceptionally skilled in this department of surgery, we calmly regard the statistics of mortality the world over, it would seem that an operation fraught with comparatively small danger, and often successful, should, under ordinary circumstances, supercede the more dreadful one of ovariotomy.

I claim to have inaugurated no new principle in the operative procedure, and after treatment of this case, I have only followed out faithfully and intelligently, the leadership of those whose talents, acquirements and position have constituted them *authorities* on a subject of such vast importance, and if the report of this case shall set the great minds of our noble profession to thinking and reasoning, more earnestly and profoundly, on the subject, I shall be amply rewarded for the labor this report has cost me.

Case 3-Morphine Poisoning.-A stout, healthy mulatto boy, aged three years, was brought to my office about 5 o'clock, P. M., apparently moribund. He had eaten a hearty dinner about one o'clock the same day, and had played about with the children of the village for several hours, when he was discovered to be very ill and brought to my office. Symptoms: slow, labored and stertorous breathing, pulse slow and weak, cold clammy skin, countenance shrunk and cadaverous, pupils contracted to a point, eyes sunk and surrounded by dark livid rings, deeply comatose, and insensible to external impressions, no effort being sufficient to arouse him from the deep lethargy for even a moment. Had vomited before being brought to me, but I failed to see the matter ejected. The labored action of heart, the death-like insensibility, the profound stertor, all seemed to indicate that absolute death was impending. It was utterly impossible to get an emetic, or anything else into his stomach, and the spectators whom curiosity drew around him, considered him in articulo mortis. Some of the colored women

of the town, who had a jealous feud with the mother of this boy, had access to a bottle of sulph. morphine, which I had been using in a case of facial neuralgia, at one of their cabins the night previous. Hence, the conjunction of symptoms and circumstances, resulted in a diagnosis of morphine poisoning. Having little faith in the antidotal powers of sulph. atropia, hypodermically, and it being utterly impracticable to get anything into his stomach, we reflected that, death from opium poisoning being produced by a suspension of respiration, because of brain torpor, and in this case, the toxic principle of the drug having entered the circulation, the only thing possible to be done, is to keep the flickering spark of life aglow, until the brain can "tide over" the effects of the poison carearing through its structure, and benumbing its functions with a death-like torpor. Guided by this reasoning, I promptly "rigged up" a Gaffes' battery, one pole of which I applied just below the ensiform cartilage, and attaching a metallic brush to the other, I rapidly passed it along the track of the spinal column from the nuchea to the sacrum. In a few seconds this procedure aroused the boy, who gazed around with a puzzled and confused expression, for a moment, and commenced writhing and screaming with considerable vigor and earnestness. Nevertheless, the current was persistently applied for several minutes, and when withdrawn, respiration, circulation, and general appearance were greatly improved. I now ordered him taken home, and put in a hot mustard bath and cataplasms of mustard applied to the spine, epigastrium, and to the wrists and ankles. He soon relapsed, however, into a profound state of coma, but the stertor, pulse and general aspect, much better than before the use of the battery. Resort was again had to the use of the battery, which was continued at short intervals for more than an hour, patient rousing up and dozing off alternately. At the expiration of this time, patient was so much improved, that I succeeded in getting him to swallow some strong coffee, and by midnight, about 7 hours after I first saw him, he was so greatly improved in every respect, that I left him, ordering a full dose of castor oil. Next morning, between 7 and 8 o'clock, I found him sleeping quietly,

with pulse, surface heat and respiration, nearly normal. When aroused, which was easily done, he appeared languid dull and stupid—but all threatening symptoms gone. He was dull and spiritless for a day or two, after which, all traces of the terrible ordeal through which he had passed, had vanished, and a normal and healthy equilibrium of the psychical and physiological functions were re-established. The statements herein made, in reference to this case, are strictly and literally correct, in every particular, and I submit them to the profession without comment, further than this, viz: Had I douched with cold water, tickled and flagellated him faithfully, and used astropia hypodermically, some doubt might arise as to what cured him.

# HISTORY OF THE LAWS REGULATING THE PRAC-TICE OF MEDICINE, ETC., IN LOUISIANA—1808 TO 1878.

Addendum to the article on this subject published in the June No. 1878, of this Journal.

BY STANFORD E. CHAILLE, A.M., M.D.,

Professor of Physiology and Pathological Anatomy, Medical Department, University of Louisiana.

Act No. 8, extra session of 1878, contains the following, which was unintentionally omitted:

"SEC. 9. Be it further enacted, etc., That there shall be levied and collected an annual amount as a license. \* \* \*

"Paragraph 6. From each apothecary or retail druggist, twenty dollars; provided that no druggist shall be licensed except he shall have a diploma of some medical or pharmaceutical society, or shall have been a practical druggist for ten years. From each physician, dentist, druggist or attorney at law, twenty dollars, provided that before any physician or surgeon can obtain a license, he or they shall comply with the requirements of section 2677 of the Revised Statutes, except those who are exempted from such requirements by section 2681 of said act."

From this it is evident that if our State tax collectors fully discharged their duties in enforcing our present laws, no persons could practice medicine in Louisiana except after proof of "having received the degree of Doctor of Medicine from a



regularly incorporated medical institution in America or Europe, and designating its name and locality," as provided by section 2677, Revised Statutes.

In my article in the June No. I stated: "Though a resident of New Orleans since 1851, I do not know, nor did I ever hear of a single instance where the slightest regard was ever paid to the above provisions, sections 2677, 2678, 2679 and 2680, and the first two sections are certainly dead letters." At a recent meeting of the Orleans Parish Medical Society I tested the correctness of this statement, and found that of twenty physicians present, six, to my surprise, had complied with the law. I have been further informed that when physicians sue for fees our courts demand proof that the laws have been complied with.

On page 923 of the June No. a list was given of some of the States having laws to regulate the practice of medicine, etc. To this list I can now add that Vermont enacted a law, like that of New Hampshire, in 1876; North Carolina enacted a law, still in force, in 1859; Pennsylvania in 1876–7; Alabama in 1877; and the California law of 1876 was amended in 1878.



## SPHACELATION OF THE RECTUM-DEATH.

By J. E. HALBERT, M. D., of Leota Ldg., Miss.

I consider the following case worthy of record on account of its rare occurence and infrequent mention in the journals and text books.

Case—July 10th. Fred. W——, native of Germany, at 35, of intemperate habits, applied to me on account of a bowel trouble of fifteen days standing, stating that six months previously he had pneumonia and since then had suffered with frequent attacks of intermittent fever.

He was extremely emaciated and the spleen very much enlarged, extending into the right hypochondrium.

The bowels were hard and distended, with considerable tenderness over left iliac fossa and super-pubic region; acting very often—stools of muco-sanguinolent nature, containing large and hard scybalæ.

The man had been on a filthy fish boat without treatment or proper nourishment since the beginning of the attack. I gave castor oil 5iv with tr. opii. gtt. x. and had him placed in a comfortable room and ordered nourishing diet of eggs, milk and beef tea, with moderate amount of stimulants.

In twelve hours the oil had acted well but he had not rested, gave \( \frac{1}{4} \) gr. morphia at once and ordered hydg, chlor, gr. i, plumbi acet gr. i, pulv. doveri grs. ii, every three hours, also, injections of tr. opii. and starch water after each action. Next day he was easier and bowels less active—Ordered, quinine grs. ii, p. ipecac gr. i, p. opii. gr. \( \frac{1}{2} \) every three hours. Morphia pro re nata. On 15th he had not rested well and the tongue was yellowish and dry, same treatment continued for three days longer at which time he seemed better, tongue moist and bowels less active.

On 19th he was much worse. He informed me that he had eaten largely of unripe fruit.

I now allowed him quinine three times a day with morphine and chloral as required.

From this time there was little change in his condition except gradual emaciation. On the fifteenth day after I first saw him, while at stool, the entire rectum passed off. He died five hours after.

The autopsy, eight hours after death, showed the spleen immensely enlarged; the lower bowel was found detached at sigmoid flexure and slight adhesion formed to abdominal wall.

About thirty-six hours before his death there was a total absence of pain in the bowels.

I have not been able to find mention of any case of such extensive destruction in any of the works on the subject. Acute dysentery generally proves fatal long before the destruction becomes so general.

The unripe fruit undoubtedly caused aggravation of every symptom of death, as the man did well up to the that time and I had strong hopes of his recovery.

## CURRENT MEDICAL LITERATURE.

#### DISEASES OF THE SKIN.

In L'Independente, the Medical Journal of Turin, for April the 25th, we find an interesting correspondence from Rome about the treatment of the diseases of the skin, adopted in the Hospital of San Gallicano, under the direction of Doctor Peter Schilling.

Scabies undergos there the following regular treatment: The whole surface of the body is rubbed with a pomade composed of pulverized hellebore 16 ounces, sublimated sulphur 18 ounces, common salt 6 ounces, nitrate of potash 6 ounces, brandy q. s. to make a paste—of which an ointment is made with equal parts of grease. Three frictions and a general soap bath are sufficient to cure the disease.

Tinea cajutis is cured with the paste of Beau; that is camphor and juice of lemon. It suffices to keep the diseased part covered with this preparation during fifteen and twenty days, and the cure is infallible.

In exzema, patients find great relief in the hypodermic injections of three grains of calomel suspended in water and glycerine. Two or three of these injections are generally enough to produce the desired effect.

Dr. Schilling uses the hypodermic treatment in many diseases of the skin, especially those of hyperæmic character, and has always obtained favorable results.

Two cases of purpura in two children have been lately treated successfully at the same hospital with hypodermic injections of ergotine. In one (purpura simplex) a single injection of four grains of ergotine dissolved in a little more than half a dram of water has been sufficient to effect the cure. In the other the purpura was hæmorrhagie and the child looked extremely sick and weak: several injections of the ergotine solution, combined with the internal administration of quinine cured it in a few days.

#### GONORRHŒAL ENDOCARDITIS.

From Journal de Médecine and de Chirurgie pratiques, Hôpital La Pitie (Service Dr. Desnos.)

Dr. Desnos, after relating several anomalous cases of endocarditis, mentions the following as extremely rare, i. e., a fatal case of gonorrhwal endocarditis.

Dr. D. says, he recently had in his service a case, which though extremely rare, is now shown not only to be *possible*, but as having actually occurred, and to which he desires to

call especial attention; as this grave complication may give singular gravity to gonorrhea, so generally looked upon as a

simple and trivial affection.

A patient admitted, suffering from acute bronchitis, was soon seized with severe pains in the shoulder, and in the sterno clavicular articulation, of same side, pains accompanied by swelling and redness. Dr. Desnos, being aware that the localized inflammation of this especial joint, was usually met with only in general rheumatism, or in the gonorrheal form, immediately thought of the latter cause, and examination at once revealed an urethral discharge.

This was the first attack of rheumatism this patient ever

suffered from.

Very soon he became affected with severe attacks of dyspnera accompanied by palpitation, action of heart tumultuous and irregular, and it was soon easy to recognize all the signs of endocarditis with narrowing of mitral valve, and

marked insufficiency.

Very soon irregular febrile excitement supervened, and the patient became gradually weak. M. Desnos at first suspected indocarditis with ulceration; as the symptoms developed however, they pointed unequivocally to deficient systolic action, with profound alteration of the circulation, the bronchitis be-

came general and the patient sank.

Autopsy verified the diagnosis of endocarditis which had even extended to aortic orifice. M. D. considers this a case of endocarditis dependent on gonorrheal rheumatism. M. D. in presenting the pathological specimens furnished by this case, to the Medical Society, stated that endocarditis might complicate gonorrhea under two different circumstances:

1. Endocarditis may be developed during the existence of gonorrhea without any preceding articular inflammation, occurring alone, and without previous complication of rheumatism elsewhere:

2. It may be developed simultaneously with articular rheumatism of gonorrheal origin.

M. D. mentions, having already met with such a case.

It may be well to call attention here, to the fact that in this case *previous* to the manifestation of the general symptoms of endocarditis, the heart had been frequently examined while noting the condition of the persistent bronchitis, and on all

these occasions was found perfectly healthy.

There existed too, in the course of this attack, two phenomena usually characteristic of gonorrheal rheumatism; on the one hand the disease being almost entirely localized to the sterno clavicular articulation; on the other, the almost total absence of profuse sweating—except perhaps, during the closing stages of the disease, when there were developed many other causes for their appearance, than the existent rheumatism,

## LAPARO ELYTROTOMY

Is the title of an article by that eminent gyneologist, Dr. Thomas, which appeared in the April number of the "American Journal of Obstetrics."

The author prefaces his subject with a short historic review of the Cæsarean section, its antiquity and great gravity; alludes to Sigaults operation, the division of the symphisis pubis, now seldom mentioned; then enters into a consideration of laparo elytrotomy, which he offers as a substitute for the Cæsarean section.

This operation, he tells us, was first suggested by Jörg, a German, in 1806, but never acted upon; then again later by Ritgen, who operated once with a fatal result however; by Physick, of Philadelphia, in 1822; by Baudelocque, Jr., in 1823, but with the exception of Ritgen's case no other mention is made in proof that it was seriously regarded or considered practicable, until conceived anew and demonstrated by Dr. Thomas in 1870 on the body of a woman, who had died of puerperal convulsions when in the ninth month of gestation.

In the following description of this experimental observa-

tion we quote in full from the author:

Case 1. Laparo elytrotomy performed on the cadaver—A young Irish woman, a multipara, aged about thirty years, had, in the latter part of the ninth month of pregnancy, as nearly as could

be ascertained, died of uremic convulsions.

Dr. Cushman at once notified me, and about eight hours after death I proceeded to remove the child by laparo elytrotomy in presence of Drs. H. B. Sands, J. L. Brown, J. B. Reynolds, Cushman and Morton. The body being laid upon a table, I passed my hand up the vagina and in about fifteen minutes dilated the cervix uteri so that my hand could pass The membranes were unbroken. Withdrawing the hand from the vagina I then made an incision with a bistoury through 3. 3 abdominal walls on the right side, extending from the spine pulsis to the anterior superior spinous process of the ilium and sweeping upwards directly above the ligament of poupart. Having cut through the muscles, I rapidly and easily lifted up the peritoneum with my fingers and soon came in contact with the vagina at its junction with the cervix. Dr. Brown then passed a large steel sound so as to make it rest against the cervix, and by this lifted the vagina into the opening in the abdominal walls. I then cut down upon the sound, enlarged the opening made with my fingers and the sound was withdrawn. Fixing an obstetric blunt hook in the cervix, it was seized by an assistant who lifted that part into the iliac fossa while another depressed the fundus uteri in an opposite direction. Then passing my right hand into the open cervix I easily caught a foot, turned the child and delivered. The operation was performed rapidly and without difficulty or detention.

was the remark of all present that had the child been alive at the commencement of the operation no influence was developed during its performance which could have injured it.

Case 2. That of a woman in the seventh month of gestation, dying of pneumonia, was operated by the author, at the instance of Dr. T. C. Finnell, the attending physician. A living child was extracted which died an hour after birth from imper

fect development and debility.

Case 3. Is condensed by Dr. Thomas from the report of Dr. Skene who performed the operation. The woman was a primipara at full time. The difficulty arose from a narrowing of the conjugate at the brim to two and a half inches. An attempt at version failed, as also efforts at extraction after perforating the head. The case was seen by Dr. Skene forty-eight hours after the inception of labor when the woman was sinking from exhaustion. He performed laparo elytrotomy, but the patient con-

tinued to sink and died seven hours after.

Cuse 4. Of a rachitic woman with deformity of the pelvis chiefly in the conjugate at the brim, narrowed to two and threequarter inches, had been delivered at the age of twenty-five of a child, with the aid of a perforator. In her second pregnancy labor was induced at the seventh month and she gave birth to a living child which succumbed a few minutes after birth. In her third pregnancy, she fell under the observation of Dr. Skene, who brought on labor in the first week of the ninth month. The child presented by the shoulder and was removed by version with much difficulty. It was small and lived but a few months. The patient suffered from metritis attended with much suffering, and was confined to her bed for five weeks. She became pregnant a fourth time and being desirous of giv ing birth to a viable child, Dr. Skene proposed to her th chances of laparo elytrotomy to which she consented. She was taken with labor pains on the night of the 28th of Octo ber, 1875, and was seen by Dr. Skene at 6 A. M. October 29th. On examination an arm and the cord presented. The membranes remaining intact, the os was allowed to dilate until 9 A. M., when the operation was performed and a living child extracted which weighed ten pounds. In removing the child the bladder was opened producing a small fistula which was closed a month after the delivery. This patient made a rapid recovery and could take carriage exercise three weeks after her confinement.

The fifth case occurred in the practice of Dr. Schmitzer. Labor commenced on Tuesday, the 19th of June, 1877, and soon after the membranes ruptured. The labor was not suspected until the 22d, when Dr. S. was sent for. On examination he found the uterus contracted firmly around the child, the os only sufficiently dilated to admit the point of the finger. She was deformed; the conjugate at the brim narrowed to one and one-

half inches, the sacrum straight and at right angles with the spinal column which showed marked curvature in the lumbar region. The thighs were flexed to nearly a right angle with the body and held there by andylosis of the hip joints. Dr. Thomas saw the case on the same day and in consultation it was agreed to first dilate the os, and then deliver by laparo elytrotomy. The operation was performed with some difficulty because of the flexion of the thighs and of a former peritonitis which obscured the anatomy of the parts, but resulted safely to mother and child. The child was removed with forceps as version was thought dangerous from the contracted condition of the uterus. During the operation the bladder which was adherent to a point near the anterior superior spinous process was accidentally wounded but healed without any operation.

The sixth case occurred to Dr. Thomas on the 3d of December, 1877. The woman was Irish, 20 years old, married and a primipara. She had been in labor 16 hours. At the brim the conjugate measured from two and one-half to two and three-quarters, whilst at the outlet the transverse was estimated at

two and one-quarter inches.

The following details of the operation we reproduce from Dr. Thomas's paper. "The patient being anaesthetized and laid upon the table, I cut through skin and adipose tissue from the superior spinious process of the ilium, along the upper edge of Poupart's ligament to the spine of the pubis on the right side of the body. Then I cut through the muscles and coming down to the peritoneum, lifted this and touched the vagina. Dr. McLane now passing his finger through this canal and pushing it upwards, I cut down upon it near the uterine junction. Then inserting my two index fingers, I tore the vaginal wall downwards. Immediately the uterus, contracting strongly, forced the breech which presented, into the iliac fossa and hooking the index fingers into the groins, I rapidly delivered. The child was asphyxiated, but by sharp slapping it soon recovered and cried lustily. From this time onward it did perfectly well. The wound having been thoroughly cleansed of blood clots, by forcing carbolized water through it by means of a Davidson's syringe, was closed by silver sutures throughout. No vessels were tied and thus no foreign substances were left within it. The duration of the operation from the time of the first incision to its completion was 35 minutes."

The patient was discharged cured 32 days after the operation. As compared with the cesarean section, this operation is certainly one of less gravity, avoiding as the author remarks, shock, metritis, peritonitis and incarceration of the intestines in the uterus and lessening the risks of septicæmia as the vagina can be, and according to the directions of the author, should be, injected every five hours with carbolized water thrown in

with sufficient force to make its way through the abdominal wound.

Of the five cases operated three women recovered and four children were born alive; of the two that died one was in-articulo-mortis at the time of the operation; the second was in a state of exhaustion from a tedious labor of forty-eight hours. The chief risks of the operation are from hemorrhage and from wounding the bladder. The first did not complicate the cases so far observed and certainly could more easily be checked than when occurring during the casarean section. Regarding the wounding of the bladder which was noticed in three of the five cases it appears to us in a measure unavoidable unless the vagina be extremely relaxed, as the strain is principally at the upper part of the vaginal opening the traction being in an upward direction chiefly.

#### ILLINOIS MEDICAL TEST LAW.

In reference to the medical test law recently passed in Illinois, a correspondent of the Medical and Surgical Reporter says: "The law is not perfect, but will be a stepping stone to something more. Over six hundred non-qualified have left the State- Every doctor in the State is reading up. Very few students are entering our offices. Western colleges, as a result of the law, have been filled with students. Surrounding States will pass similar laws in self-defence."—Boston Medical and Surgical Journal.

#### HARVEY.

This is the tercentennial year of Harvey's birth, the great discoverer of the circulation of the blood, having been born at Falkestone, England, in 1578. It is proposed to erect a monument to his memory at his birth-place, and £1100 of the £1800 necessary for the work have been raised.—Michigan Medical News.

#### PROFESSOR LISTER.

Professor Lister is not having the success in London which his admirers hoped for him. He lectures to almost empty benches.—Medical and Surgical Reporter.

#### LIQUIFYING AIR.

Cailletet has given the details of his experiment of liquitying air. Inclosing in his glass tube air, dry and free from carbon dioxide, he cooled this tube with liquid nitrous oxide at its upper part. Upon increasing the pressure to 209 atmospheres, streams of liquid air were seen flowing down the lower portions

of the tube. When they met the mercury they seemed to turn back. At 310 atmospheres, the mercury being in contact with the cooled part of the tube, was frozen, and on quickly removing the refrigerating apparatus it was seen covered with frozen air. Harper's Monthly.

#### FOR FRECKLES.

Prof. James C. White, of Harvard, recommends the following:

R Hydrg Bichloridi	 gr. vj.
Acidi muriatici dil	 3i.
Aquae	
Alcohol	
Aq. Rosae, à à	 . 5ij.
Clycorine	7;

Mix. To be applied carefully at night.—Michigan Medical News.

## USE OF CAPSICUM WITH QUINIA.

Prof. W. H. Thompson says that either capsicum, ginger, or other aromatics, combined with quinia, will diminish the amount required of the latter.—Maryland Medical Journal.

## DEATH FROM YELLOW FEVER IN LONDON.

For the first time, probably, in the memory of any living physician, a case of yellow fever ending fatally is reported in London. The case was seen before death, in consultation, by Dr. Murchison; and both the symptoms before death and the anatomical conditions after death, clearly established the nature of the case. It was contracted on board a West Indian steamer in which several deaths had occurred,—Medical and Surgical Reporter.

## DR. J. MARION SIMS.

Marion Sims' stay at Vienna last month seems to have been one series of ovations. The journals of that city contain regular bulletins of his movements and operations—for during his visit he performed quite a number. All are loud in expressions of surprise and pleasure at the dexterity and elegance of his manipulations. Although sixty-five years of age the journals state that his vivacity of spirit and elasticity of body make him appear younger.—The Clinic.

#### DEATH FROM CHLOROFORM NARCOSIS.

Dr. Hugh M. Taylor in the Virginia Medical Monthly, adds

another to the very few cases reported by Southern surgeons. The operation was external urethrotomy. A guide had just been passed into the bladder, when the patient gave one or two stertorous gasps and ceased breathing. Artificial respiration, nitrate of amyl and Nileton's method, were used unsuccessfully. The whole amount of chloroform given, did not exceed one ounce.

## A NEW HYPNOTIC.

Prof. H. C. Wood, Jr., has analyzed the seeds of sophora speciosa, a native plant of Texas, and has detected a new alkaloid, which he names Sophoria. Half of one of the seeds is said to be sufficient to produce delicious exhilaration, followed by a sleep lasting one or two days.—Hospital Gazette and Archives of Clinical Surgery.

## AMERICAN MEDICAL ASSOCIATION.

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TWENTY-NINTH ANNUAL MEETING.

Held in Buffalo, New York, June 4, 5, 6 and 7, 1878-

#### FIRST DAY.

The Association met in St. James Hall, Buffalo, New York, at 11 A. M., and was called to order by the President, Dr. T. G. Richardson, of New Orleans, La.

Prayer was offered by Rev. L. Van Bokklin, D. D., rector of

Trinity Church.

Dr. Thomas F. Rochester, of Buffalo, chairman of the Committee of Arrangements, then delivered the address of welcome.

The Secretary then presented the report of the Committee of Arrangements on the credentials of members, 350 names were read from the registry book, and the report was adopted.

Charges against various medical societies and applications

for membership were referred to the judicial council.

The following telegram from Dr. J. Mation Sims, now in Paris, was read and elicited marked demonstrations of approval:

"President American Medical Association:

May your meetings be harmonious and contribute more than ever to the advancement of medicine. Truly sorry I cannot be with you."

MARION SIMS.

The Chairman of the Committee of Arrangements made some announcements for the future proceedings and the programme of entertainments, after which Prof. James P. White introduced the President, T. G. Richardson, M. D., of Louisiana, who delivered his annual address as follows:

## PRESIDENT RICHARDSON'S ADDRESS.

Gentlemen: However sceptical a large majority of the medical profession of the United States may have been thirty years ago in regard to the vitality possessed by this Association, then in the first year of feeble infancy, its subsequent wondeaful growth has dispelled every doubt, and its present great power for good is recognized by all. The vast benefits which it has wrought, in uniting the interests of the profession in all the different sections of the country; the encouragement which it has given to a higher culture; the valuable contributions which it has made to some departments of medicine, and the dignified position which it has gained in the eyes of the whole nation, have been so often descanted upon by my predecessors that it may seem somewhat trite and unprofitable to refer to them again; and yet, there is one point which deserves to be brought to your attention anew.

#### MEDICAL EDUCATION.

Although more than a generation has passed away since the first meeting of the Association in the city of New York, and only a few of the original members are now to be seen clustering around the venerable form of him whom we all delight to honor as its projector and the ever-watchful guardian of its interests, it is a well-known fact that the most prominent objects in the minds of the earnest men who composed that assembly were the improvement of the system of medical education in the United States, and the elevation of the standard of requirement for the professional degree. To these two great topics the thoughts of all were continually directed, and many of the utterances on that occasion evince a bold determination not only to imitate, but to press to a successful issue, a movement of reform which should involve every medical institution in the land. It is equally well known that, down to within a very few years past, all the numerous efforts in this direction seemed to accomplish no permanent good, and the philanthropic and enthusiastic reformers, with the exception of a few hopeful and unconquerable spirits, had come to consider the cause as almost wholly lost. The measures proposed, and adopted from time to time, were sufficiently incisive, and, to all appearances, admirably adapted to the ends in view; but, unfortunately, there was no power in the Association to carry them out, and they remained upon the record as mere mementoes of the praiseworthy zeal of their authors.

In view of this discouraging result, a change of tactics was

resorted to, and the medical colleges were invoked to correct the evils which were so patent to every one, and for which they were supposed by many to be responsible. With what they were supposed by many to be responsible. little earnestness, and, consequently with what little effect, these organizations responded to the appeal, it is not my present purpose to enquire. I desire on the contrary, to congratulate the Association upon the evidences which are now developing that its work has not been in vain. It is true that the method of mixed teaching practiced by the schools more than half a century ago is still generally followed; but it must be clear to all unprejudiced observers that this is a growing dissatisfaction with the imperfection of this method, and a disposition to adopt the only philosophic plan, known as the graded system, which prevails throughout all the other civilized nations of the world. In proof of this, I have only to point to the fact that within the past year the Medical Depart. ment of the University of Pennsylvania, the oldest school of medicine in this country, one whose fame has never been eclipsed, following the example of the Chicago Medical College and Harvard Medical School, has changed her ground, and is now fairly on the new road to a still higher position than that which she previously held.

This revolution which is taking place in the minds of medical teachers is, I am inclined to believe, almost entirely due to the public professional opinion which has been originated by the frequent discussions before this body. It is in the creating and directing of professonal sentiment that the great power of the Association lies; and I trust, therefore, that, however wearisome this subject may have become to many of you, its agitation may not cease, as it is only in this way that

the

#### CURRENT OF REFORMATION

can be kept in motion. We have just now found out that the plan which we formerly persued of making war directly upon the medical colleges, endeavoring to compel them to conform their practices to our theories, or else surrender the prerogatives to which they have been so long accustomed, was altogether a mistake, and probably deserve the partial defeat which it encountered. Indeed, I am not quite sure but that the many and severe blows which these institutions received at our hands served rather to compact them together, and thus to increase their power of resistance. It is a well-established fact that the walls of old Fort Sumter were by no means impregnable until they had been battered for weeks by the guns of the United States Navy, and not until a successful diversion was made against the forces on the main-land were its casemates abandoned. In like manner it is only by capturing the grand army of the profession throughout the country, from which the colleges derive their material and moral support, that we

can reasonably hope to bring these institutions to terms. It is by enlightening the mind of the professional public; by developing in those who have passed the novitiate of their studies a desire for something higher and better than can be supplied by the old system, and by awakening in the ranks of the profession a knowledge of the power which they can exert by combination and concert, that we can bring about that change in the requirements for graduation which we all so ardently wish. Let us, then, use our utmost endeavors to cultivate a spirit of scientific inquiry in the minds, not only of physicians, but also of the public generally, to arouse the ambition of our routine brethern; to stimulate in the scattered practitioners of the country a sense of their equal responsibility with those of the cities, in carrying on the work of progress, and to open up avenues of knowledge to all who may desire to excel. Unless we succeed in elevating the tone and sentiment of the masses of the profession, and enlightening at the same time the people in regard to the absolute necessity of protracted study and clinical observation, in every one claiming their confidence in his ability to treat disease, we have no right to expect support in our efforts to advance medical teaching, and to raise the grade of requirement for the doctorate.

As a means of accomplishing all this it is necessary that there should be a more thorough organization of

## STATE, COUNTY AND DISTRICT SOCIETIES,

and I would therefore suggest to the Association the adoption of some uniform plan by which the sixty thousand physicians in the country may be encouraged to unite in district organizations, and through their representatives establish a living union with this, the central legislative body. When in this manner the object here proposed shall have been effected, no honest faculty will dare confer a diploma upon an unworthy candidate, and no one, save an empiric, will dare offer himself as a practitioner of medicine without documentary proof that he is grounded in the great principles of medicine, and that he has studied disease by the bedside of the sick, under the guidance of conscientious and competent teachers.

#### ORIGINAL INVESTIGATION.

Notwithstanding the very flattering and eloquent encomiums pronounced by our worthy representatives at the late International Medical Congress in Philadelphia upon American physicians and surgeons, and their very encouraging account of the flourishing state of medical science and art throughout the United States, now that we are out of hearing of the distinguished foreigners who honored us on that occassion, would it not be well, at least for the sake of some whose consciences are

perhaps a little over-sensitive, to confess to one another that "Original Investigation," in the sense in which the term is strictly used abroad, has not been, and is not now, a marked feature in the professional work of this country? Can we not count upon our fingers the names of our physicians who have made undeniable and valuable additions to the common stock of knowledge, in any one of the sciences or arts which come within the domain of medical and surgical study? I would not speak disparagingly of the quality, but only of the small quantity, of the work which has been done. I am not behind the most ardent in my admiration of the few earnest, persevering, patient investigators of nature, who, unaided by national. State, or other public patronage, have labored monthafter month and year after year in the pursuit of new facts bearing upon the structure, functions and diseases of the human body, content if they succeed in adding a single stone to the temple of knowledge. Nor am I ignorant of the fact that, through the enlightened liberality of a few remarkable men of wealth, provision has been made for the diffusion of scientific knowledge by publication and otherwise, and, in one noted instance, for the endowment of a medical school and hospital in which ample arrangements are to be made for the prosecution of original research. But such men as Smithson and Hopkins and Boylston and Toner are not sufficiently numerous for the wants of our home science. I would enquire, therefore, whether it is not the duty of this Association to do something more than it has done in the past to foster the spirit of investigation and discovery in those departments which relate directly to medicine,

## TWO METHODS OF EFFECTING THIS

present themselves. One is, to endeavor to concentrate the influence of the entire profession throughout the country upon the Federal Congress, and to convince its members of the great necessity of taking some steps in order to save the Nation from the disgrace which must inevitably attach to her name, if she should persistently maintain her present indifference to work of this kind, and should wilfully keep her eyes closed to the numerous scientific enterprises undertaken by all other enlightened governments. I need scarcely remind you of what Germany, and France, and England, and Austria, and even Russia, are doing to advance the natural sciences, especially those bearing upon medicine-of the great museums and scientific workshops which they have established; of the liberal inducements which they offer to men of first-rate abilities, and of the large sums of money which they annually appropriate for these purposes. They recognize the fact that pure science. while it is a mine of wealth to the State, cannot remunerate the investigator; that it cannot live upon itself; that those

who consecrate themslves to the pursuit of it must isolate themselves from the money-getting world around them; must be relieved from all care and anxiety as to their daily bread, and must be supplied with every necessary 'appliance, while with concentrated thought and patient toil, they seek to penetrate, as it were with a diamond drill, the flinty barriers which separate the known from the unknown. This is particularly true of those engaged in biological research, who, while they confer material blessings upon the whole human family, are obliged to depend upon extrinsic aid to enable them to carry on their work.

I am not prepared to propose a plan sufficiently elaborated to justify submitting it to the Association with the view of having it brought before the authorities at Washington. Yet it seems to me that in the Army Medical Museum and Library the General Government has, unintentionally no doubt, already founded a school which, through the influences just indicated. may possibly be made the nucleus of a great National Institute in which original research in all the sciences upon which medicine more immediately draws shall be conducted, with the same wisdom and efficiency which characterize its present management. Original work of a high order has, indeed, been already achieved within its precincts in the preparation of the "Medical and Surgical History of the War;" for which the distinguished authors deserve more than professional honors; and the accomplished curator, while off duty, has made valuable additions to physiological and pathological microscopy; but I understand that no provision exists for experimental or abstract research. If the Government could be induced to appropriate so small a sum as ten or fifteen thousand dollars annually for this purpose, and to select from its able corps of medical officers competent men who should devote their whole time to work of investigation, the cause of science would be greatly advanced and the honor of the country proportionally sustained.

The other method to which I would direct your attention is one which lies exclusively within the scope and ability of this Association, and would, if adopted, in no manner conflict with the one just alluded to. Although the possible results of this method are not to be compared with what may be effected by a great national establishment, it is nevertheless worthy of consideration on account of its supposed merit and entire lea-

sibility.

## I PROCEED TO DEVELOP IT.

According to the "Plan of Organization" of the Association, the "Committee on Prize Essays" have power "to award two prizes of one hundred dollars each to the two best original communications reported on favorably by them, and directed by the Association to be published." I would ask whether the operation of this by-law, after twenty-nine years' existence, has proved entirely satisfactory. During this period no award has been made in thirty-one instances, mainly in consequence of the want of sufficient merit of the essays presented. Twenty-five papers have been reported upon favorably, for which the Association has paid in prize-money and for publication some eight or ten thousand dollars. It cannot be denied that many of the accepted essays possess decided literary and scientific value. Some of them, indeed, reflect great honor, not only upon their authors, but upon the profession in general. But, after all that can be said in their praise, is it not true that a large proportion of them lack that singular quality which should entitle them, when strictly tested, to the designation of original re-

searches, or even contributions to knowledge?

Without pressing this question. I assume that it is the sincere wish of all who feel an interest in the welfare of the Association, that as it advances in age and experience it shall progressively improve in the quality of the work which, from year to year, it presents to the profession as its best production. I am confident that in this respect a change for the better may be made by designating the subjects for competition, requiring strictly original research, and giving more time for preparation. Under the present plan a committee of five members is appointed by the Association from among the physicians of the city in which the next annual meeting is to take place, to whom all competing essays are directed to be sent. As the period within which such papers are to be admitted extends to the very day of the assembling of the Association, the result is that most of them do not reach the chairman until a week or two, or sometimes a day or two, before the meeting. The examination which he and his colleagues can give them is, therefore, necessarily cursory and unsatisfactory. This is certainly a very serious objection; but a still graver one lies in the fact that, in the large majority of cases, there is not a single mem ber of the committee who is fully informed upon any one of the topics of which the essays treat. I do not say this to the discredit of any one; but I submit to your judgment whether every city in which the Association has met during the past thirty years is so signally favored as to possess thorough experts in physiology, in therapeutics, in pathology and in surgery. To remedy these palpable defects, to improve the scientific quality of the articles offered for competition, and to bring them within the field of original investigation, I suggest

### THE FOLLOWING PLAN:

1. Offer four annual prizes of not less than two hundred and fity dollars each, to be awarded at the close of the second

year after announcement, for strictly original constributions to

medical and surgical progress.

2. Empower the chairman of each of the four sections designated numerically in the Plan of Organization, as 1st, 2d, 3d and 5th, to appoint annually (and if possible before the adjournment of the session of the Association) a committee of three members of acknowledged ability and wisdom, who shall, as soon as practicable, select and publicly announce for competitive investigation and report, a subject belonging to one or the other of the branches included in the title of the section.

3. Let it also be the duty of each of the chairmen mentioned to appoint annually a committee of three experts who shall carefully examine the essays presented, and, if any one shall be found worthy of the prize, to recommend its award by the

Association.

4. Require all competing essays to be placed in the hands of the chairmen of the respective committees of award, on or before the first day of January preceding the meeting at which the prizes are to be announced.

5. All prize essays shall be considered the property of the

Association.

6. The names of the competitors shall be kept secret from the committees of examination.

7. Membership upon either of the two committees shall not debar from membership on the other; nor shall membership of the first exclude the member from becoming a competitor.

By some such schemes as this, of which only the salient features have been here sketched, there is reason to hope that original investigation may stimulate, and contributions of a superior character obtained. The objection, which I fancy has already suggested itself to nearly every one who hears my voice, is the want of funds. To this I reply:

1. It can be clearly demonstrated that by the practice of only a very little economy in current expenses there will be an ample balance in the treasury for this and other important

measures.

2. It is not very likely that all four of the prizes will be

awarded every year.

3. If the receipts from annual assessments should prove inadequate, the rate may be increased to eight or ten dollars, as

was proposed at the meeting of 1873.

4. I am quite confident that money will be voluntarily contributed for these and other similar objects, provided the Association shall place itself in a legal attitude to receive and disburse such gifts. Upon this point which I deem of no small importance I beg leave to make a few remarks.

So long as the Association remains unincorporated, it is, of course, an organization entirely unknown to the laws of the land. It cannot legally accept or hold property of any sort.

whatever, and is therefore prohibited from entering into any formal engagement involving the payment of moneys for any specified object. It has no authority to collect its dues, nor can it be compelled to pay its debts. As it cannot hold property it, of course, cannot receive bequests nor even donations with limiting restrictions as to their use. Now I would ask whether it is not within the bounds of reasonable expectation that, if this disability should be removed, funds would from time to time be committed by will or otherwise to the Association for immediate use as prizes, or for the endowment of research? I should be greatly disappointed if we should not witness after a while the gift of considerable sums of money for specified purposes, by persons without, as well as within, the circle of the profession. This has been the result elsewhere, and there is reason to believe that, as the Association shall continue to gain upon the confidence of the people, the same will occur here. The annual prizes which are yearly offered in the great societies of London and Paris, amounting to many thousands of dollars, are derived mainly from such sources; and I sincerely believe that it has been for want of opportunity that this society has not been made the recipient of similar gifts.

Moreover, if the Association should be incorporated, and its funds be placed in the control of administrators, would not this insure economy in expenditures, and thus secure not only the insignificant sums proposed for prizes, but enable us to

double the same within a very short time?

An act of corporation can be readily obtained from any one of the States without restricting the Association as to its place of meeting. It will only be necessary that the trustees or administrators shall reside in, or at least hold their meetings within the bounds of the State granting the charter.

### STATE MEDICINE.

Undoubtedly the most important question which has ever been considered by this Association is that of State Medicine. Although so frequently the subject of protracted discussion and elaborate report, it loses nothing of its freshness and interest by repeated presentation, and will probably continue to claim our serious attention as often as we may assemble together in these annual meetings. It is true that as mere citizens we are not more nearly concerned in the development and application of its great powers for good than are all others, for it touches every class and every individual in the community. It is of as much importance to the high as to the low, to the rich as to the poor, to the educated as to the unlettered, and bears with no light pressure upon those who make and those who execute the State and municipal laws. Nevertheless it devolves upon us as philanthrophists, and the self-constituted in

structors of the people in regard to health and disease, to to awaken the public mind to the fact that, as matters now stand, human lives are daily sacrificed at a most fearful rate. and that by concerted and well-directed efforts, this sacrifice may be materially arrested. As humanitarians, as moralists. as Christians, we cannot wilfully shut our eyes to the unnecessary sickness, suffering and death which are taking place around us. We cannot quiet our consciences by ex cathedra enunciations of the natural laws by which health may be preserved, and the spread of sickness prevented. We must continue in the lead of all public movements directed to this end. and endeavor to draw to our aid all the influence of the people and all the powers of the State. Considerable progress has already been made. Looking cursorily over the whole country, evidences of an awakening interest in the cause are visible in almost every quarter. Ten years ago not a single State health association existed. Now there are twenty such organizations in operation, collecting facts, distributing information, and urging forward the necessary legislation.

Nine of these boards have been created since this Association by formal action in 1875 made its first appeal to the executive officers of the different States to take action in reference

to this matter.\*

Compared with what has been accomplished by other enlightened nations, this may to some appear trifling; but nevertheless small as the beginning is, it furnishes fit cause for congratulation, for it is the beginning of hope. No one, indeed, can read the reports made to the sanitary section of this Association, and the valuable papers contributed to the American Public Health Association, and to some of the State organizations, without feeling a strong desire to take an active part in the great crusade which is now preparing for the recovery of that which to this people is far more holy than any earthly Jerusalem. But let me urge upon each one who proposes to enlist in this service that he shall first fully satisfy his mind of the true

State Boards of Health have been established in the following 19 of the 39 States, and in the District of Columbia at the dates following, viz:

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Alabama	1875	Massachusetts 1869
California	1870	Michigan 1873
Colorado	1876	Minnesota 1872
Connecticut	1876	Mississippi 1877
District Columbia	1871	New Jersey 1877
Georgia	1875	North Carolina 1877
Illinois		Tennessee 1877
Kentucky	1878	Rhode Island 1878
Louisiana		Virginia 1871
Maryland	1874	Wisconsin 1876

<sup>\*</sup> The first "State Board of Health" was established by Massachusetts in 1869; however, Louisiana created a "Board of Health" for the protection of the State by quarantine in 1855, and extended the power of this Board in 1870.

nature of the work, and ascertain for himself the best means to be employed under the circumstances which surround him. I fear that the opinions in regard to these matters held even by a large number of our medical men as well as by the public in general, are rather indefinite and misty, and I beg leave therefore to enquire briefly what is really meant by State Medicine, in the full acceptation of the term; what is its essential nature and what are the principal objects which it proposes to the medical profession, to the people and to the several municipal. State and Federal authorities.

As I understand it, the

### OBJECTS OF STATE MEDICINE ARE THREEFOLD:

1. The prevention or arrest by official measures of all diseases which are not in their nature strictly limited to the individual, but which, from external causes, or from their specific characters, have a tendency to spread throughout families, institutions and communities, and which cannot be otherwise controlled. This is the aim of public hygiene, which is the first grand division of State Medicine.

2. The qualification of men by suitable education for the duties involved not only in the practice of medicine, but also of public hygiene, the State not only directing the studies which they shall follow, but determining by examination when they have reached the standard of acquirement necessary for

the proper performance of their great trusts.

3. The enactment and enforcement by the State of such laws as shall secure to every citizen the benefit of the services of the best professional experts in all questions of a medico-legal character.

In brief, State Medicine may be considered to include public hygiene, medical education and medical jurisprudence, to which may be added the establishment, control and sustenta-

tion of public institutions for the sick and infirm.

If this statement of the subject is a fair one, how vast is its domain; and what a multitude of duties is exacted of those who make it their great pursuit in life! And yet, notwithstanding its extent and the numerous branches into which it naturally divides, it is susceptible of reduction into a complete system in which there shall be no clashing, and each part command the attention which it deserves. This has been already done to some extent in England, where public hygiene at least occupies its true position in the organic law of the land. There the principle is recognized that the private citizen, however humble, is as justly entitled to protection by the State against the public enemies of his health and life, as against highway robbery and murder. The same is true of Prussia, with reference to medical jurisprudence, where the most obscure plebeian, when brought before a court, can command

the ablest counsel in the State in all questions of a medicolegal character. What has been done in England and in Prussia, where political power is concentrated in the hands of a few enlightened statesmen, may not be so fully accomplished here, where federal authority extends but a little way beyond the arena upon which the political relations of the several States are adjusted; nevertheless, by adapting our methods to the peculiarities of our system of government, much more may be realized than at first sight appears probable.

It is of course, impossible, in a discourse like the present, to propose in detail, a plan for the elevation of State Medicine to its rightful place as an important factor in National legislation. Such discussion is more appropriate to the section to which this subject is assigned; but I may be allowed to point out the fundamental principles upon which all such schemes must necessarily rest, at least so far as public hygiene is con-

cerned, and to indicate what seems to me to be

### THE ONLY ROAD

upon which we may reasonably hope to make any decided advance.

That the public in general are not only ignorant of hygienic laws, but to a large extent wilfully indifferent to an acquaintance with them, is evident to the most careless observer. see daily lamentable proofs of the fact, not only in the personal habits, vices and surroundings of the poor, but also in the dissipation, dress, and dwellings of the rich; not only in illventilated factories, mines, jails, and poor-houses; but in churches, hospitals, hotels, asylums and school-houses; not only in the filthy streets and sewers of cities, but in the malarious swamps and stagnant ponds of the country. It is clearly then of the first importance that the people, who in this land of liberty not only make but practically execute the laws, should be educated in the elements of physiology and sanitary science, to a sufficient extent to enable them to appreciate the necessity of making and enforcing such regulations as are known to promote health in general, and arrest the progress of endemic and epidemic diseases. Properly directed public education, is, I insist, essential to public health, and every scheme for the promotion of the latter which is not founded upon the former must inevitably fail. This is true, not only with reference to this Democratic-Republic of ours, in which by a political fic-tion every citizen is declared to be a sovereign, but also in dear old monarchical England with its three-score steps between the curb stone and the foot of the throne, where in a recent address, Professor Tyndall broadly asserts that "if any thing is to be done in the way of really great sanitary improvement it must be from the people themselves." But, admitting the undeniable necessity of instructing the masses, I ask in the

language of the great apostle, "How shall they hear without a preacher, and how shall they preach except they be sent?" Before endeavoring to answer these questions in reference to the subject before us, am I not justified in applying, with a single change, the ensuing words of this unequalled master to a few who stand here? "How beautiful are the feet of them who preach the gospel of health (peace), and bring glad tidings

of good things!"

It is a trite theory that knowledge penetrates society from above; that starting from the limited mountain-top occupied by the educated few it slowly percolates through the subjacent strata, and after a while perhaps in a greatly diluted state, it reaches the minds of the many who form the lowest stratum. I admit the truth of the illustration in so far as it expresses the direction which knowledge takes, but I deny the inference that the latter descends by its own weight; that those who possess it have only to open their mouths and their words shall by their specific gravity filter through all intervening grades, and refresh the thirsty souls of those who are at the bottom. This is certainly a very comfortable doctrine for those who live nearest the heavens, but unfortunately it is not true. Knowledge 'abides alone' unless it be forced into the ranks below; and it is the bounden duty of those who possess it to make provision for its diffusion. "No man liveth to himself alone," and the author of all truth has pronounced dire maledictions against those who hold the key of knowledge and refuse to open the door to those who are without. Sanitary science is no exception to the rule. It must be taught—taught in the family, in the infant school, in the academy; taught in the workshop, in the factory, in the church; taught in the university, in the forum, in the legislative halls; taught in the city; taught in the country; taught everywhere. We have our Bowditches, and Shattucks, and Bakers and Cabells and others of like wisdom and zeal to direct the great work; but we need missionaries and colporteurs who will go into the streets and by-ways and teach the truths of the new way; persuading all who will listen that health and long life are possible to multitudes of those who now sicken and die before they attain the age of maturity. And whence are these teachers to come? I answer that for the present at least, they are to be furnished chiefly by the medical profession. Indeed every physician should be a worshipper at the shrine of the rosy-cheeked Hygeia, the daughter of his old god Esculapius, and should exert his utmost influence to spread abroad the knowledge of the elementary truths which underlie the whole system of sanitation. By so doing he will prepare the way for the enactment and execution of sanitary laws.

Hand in hand with the physician should be found the minister of the Christian religion, who, like the former, is brought

into closest relations with all grades of society, and thus far is equally fitted to become a messenger of health, not only to those who belong to his pastoral charge, but to all who come within the circle of his personal influence. I do not know what the theological seminaries are doing with this question, but I do know that the oldest system of public hygiene of which we have any record was formulated and enforced by Moses, the divinely-appointed head of the Church under the old dispen. sation, and the type of him who sixteen hundred years afterwards assumed in person the leadership for all time to come. If that great religious teacher in those far-away times considered it his duty to protect the members of his flock from preventible diseases by enforcing wise sanitary regulations, it seems to me that his successors, although not possessed of his extraordinary authority, might at least preach the doctrine and endeavor to practice it. If consulted by them, I would therefore certainly urge that, as a preparation for engaging in the duties of the pastor, the theological student should pursue a course of study in sanitary science, as a means of doing much good in a moral as well as in a material sense.

But to return to the main question, I would call attention to the fact that a very large proportion of the members of our profession, all of whom should be teachers of the laws of health, need themselves to be taught, they having never given the

matter, important as it is,

### SUFFICIENT SYSTEMATIC STUDY

to enable them to speak with authority upon any of its most important points. If we turn to the medical schools, we find some explanation of this state of ignorance in the fact that very few of these institutions mention the subject in their prospectuses, and only two or three have a special professor of State Medicine in their faculties. It is true that in all the schools the professors of physiology necessarily teach the fundamental laws of personal health; but far more than this is required to enable the student to comprehend even the outlines of the study. Trusting that the medical colleges may soon correct this serious defect in their system, we are still confronted by the question: What is to be done toward enlightening the tens of thousands now engaged in the practice of medicine all over the land who have received no such instruction, and are not fully aware of the important bearing of the subject upon the welfare and prosperity of the nation? can this Association do more than it has done with reference to this point? The question is one that demands the most serious consideratian; and I confess to you that I approach it with no little diffidence, not only on account of its great importance, but of the difficulties by which it is beset. The subject presents itself, however, to my mind somewhat after

the following manner: A comparatively small number of philanthropic gentlemen, most of them physicians, imbued with a deep sense of the inestimable value of systematic hygiene for the prevention and arrest of disease, have, by protracted study and investigation, become possessed of certain information, which, if generally known and acted upon, would not only save the lives of nearly one-half of those who now die before middle age, but also prevent a vast amount of sickness and greatly promote the well-being and good morals These learned and noble-hearted persons desire of society. to impart their knowledge to their professional brethren and others through whom it may be distributed broadcast over every State of the Union. Their first difficulty is to reach the ear of the professional public, and the second is to convince their hearers of the great importance of their message. grand army of physicians scattered over our immense territory could by means of the telephone or otherwise be brought within hearing and persuaded to listen attentively for an hour or more to the spoken words of one or other of the masters referred to, the first part of the problem would be solved, and possibly the second also. In a very little while the seed thus sown would germinate and bring forth fruit for the saving of human life, some thirty, some fifty and some a hundred fold. But as this method is impracticable, at least in the present state of physical science, may not the end in view be otherwise attained? There is but one other way that I know of, and that is for this Association to speak, and by means of the press and the post send its words to every physician in the land. I suggest therefore that a special committee of leading sanitarians be appointed to prepare a somewhat elaborate address to the profession and the public, setting forth the transcendent importance of the subject, presenting a summary of sanitary science, pointing out the best methods of studying and teaching the same, and demonstrating the great benefits to be derived therefrom by the individual and the community in general. Without attempting to portray the special features that should appear in such an address, I take the liberty of saying that it should not omit to insist upon the great necessity of teaching the young not only the laws of health, but the elements of physiology which are essential to a proper comprehension of the principles of hygiene. In my opinion this instruction cannot be commenced too early in life and should progress pari passu with that of geography, grammar and history, so that a boy or girl ten years old should feel as much disgraced by ignorance of the principal organs of the body and their functions, as by ignorance of the differences between an island and a lake, or a mountain and a valley. I am not unaware of the serious difficulties to be encountered in the attempt to introduce these studies into schools

for the young, of the objections arising from want of competent instructors, and of the strong repugnance which many parents feel at the bare thought of instilling such knowledge into the minds of their children. The last was brought home to me most forcibly not long ago, when a gentleman of average common sense and good position in society withdrew his daughter, a girl of twelve or fourteen years of age, from a first-class school, with which I am acquainted, because a human skeleton was brought into the class-room by a well-known professor of physiology who had volunteered to teach the pupils a few facts in regard to respiration and circulation. But I am sure that by the publication of facts, and by patience and perseverance on the part of medical men, all this sort of opposition will be overcome, and that before another generation shall grow up into manhood and womanhood no school or seminary will be considered complete in its appointments without a competent teacher of sanitary science.

Such an address as I have in view might possibly be compressed into sixty or eighty pages; and twenty or thirty thousand copies divided among the State Medical Societies, with instructions to distribute them throughout every county, would prove of inestimable benefit to the great cause which we are

endeavoring to promote.

Following immediately in its path, and acting as a supporting column to the professional army engaged in overcoming the numerous obstacles which society presents at every step, should be found the State and municipal authorities occupying every foot of ground that is gained by placing it under sanitary laws. This seems to be the way in which all the great movements of civilization progress toward a successful issue. Nevertheless, it has been proposed by some of the wisest members of this Association not to wait the necessarily slow march of sanitary intelligence among the people, but to petition the Federal Legislature at once to create a sanitary department in the General Government, with an officer at its head who shall be the peer of the Secretaries of State, War and Finance, and be assisted in the performance of his duties by a

### NATIONAL COUNCIL OF HEALTH,

composed of members from every State in the Union. However startling such a proposition may have appeared to the politicians at Washington, and to a very large proportion of the medical profession who are not yet quite educated up to this point, emanating as it does from such a well-known master in State Medicine as my distinguished predecessor in this chair, and advocated by so many others whose opinions in such matters are worthy of the highest consideration, I commend the question to your serious attention. I do not propose to discuss

the subject here, farther than to say that nearly all the plans suggested for securing Federal control of public hygiene seem to me to be constructed too much upon European models, and are, therefore, not easily adapted to our democratic-republican system of government. To my mind there are but two great questions in State Medicine which we can reasonably hope to have solved by federal legislation. One concerns sea-board quarantine, and the other the pollution of water courses. doubted by many eminent statesmen whether even these can be brought under federal control; and yet the recent passage by Congress of "an act to prevent the introduction of contagious and infectious diseases into the United States" encourages us to hope that something may be expected from that quarter. It is true that the act referred to mainly contemplates giving assistance to the quarantine authorities of the sea-board Sates; but it also provides for the establishment of quarantine stations where none exists, but where in the opinion of the Secretary of the Treasury it shall be deemed necessary, provided there shall be no interference with State laws or regulations in regard to such matters. The assumption by Congress of authority to enforce such laws under any circumstances is a most important and significant movement in the direction of a general seaboard quarantine. If the Federal Government has the right to establish such stations within the bounds of any State she undoubtedly has the right to do the same in all, and let us therefore hope that it will not be long before she shall extend her jurisdiction, so far at least as preventive medicine is concerned along the entire coast from Maine to Texas. The abuses of the present system of quarantine by separate States, arising mainly from the fact that its officers are for the most part appointed from political consideration and with no reference to their fitness for the position, are so flagrant as to demand the attention, and if possible, the redress of the central government. The Forty-fifth Congress therefore deserves the sincere thanks of the medical profession throughout the Union, and especially of this Association, for this, its first formal acknowledgment of State Medicine since 1799; thanks to which might well be added without detraction the earnest expression of the hope that still larger powers of the same nature may be granted to the Secretary of the Tseasury, and through him to the Surgeon-General of the Marine Hospital Service. The inauguration of a uniform sanitary police with reference to maritime commerce would be hailed with delight by all the citizens of the coast States, save and alone by those who are politically and pecuniarily interested in perpetuating the present unequal and unjust system. It would not only protect the people from the impositions already referred to, but would relieve them from an onerous tax from which there seems to be otherwise no escape.

Whatever doubts there may be as to the extent of the authority possessed by the central government, there seems to be no dispute that within the limits of each separate State resides a power which with reference to all such matters is practically supreme. It is to this power represented by the Legislature and Executive of each State that we must look for the enactment and enforcement of such laws as State Medicine demands of a wise government, economical not less of the lives and health of its citizens than of its material resources. It is, therefore, upon this power that the State Medical Societies should concentrate all their influence, professional and social, to effect the necessary legislation. They should employ their best endeavors to have

### STATE BOARDS OF HEALTH

created where they do not at present exist, and they should by all means secure the right of nomination for appointments upon such boards; otherwise positions which demand men of peculiar qualification and sterling integrity will be conferred, as is too often the case, upon mere office-hunters who have no interest whatever in the matter beyond its pecuniary return. In this connection I would call special attention to the plan adopted by the State of Alabama, where the State Medical Association has been constituted the State Board of Health, and the county societies subordinate local boards with power to select all the officers necessary to carry on the work including that of quarantine. Whatever plan, however, the societies may advocate, let them bear in mind in recommending legislation that while it is true that a people ignorant of even the elements of hygiene cannot be brought under sanitary legislation except by restraint, such restraint should be used with the greatest caution and moderation and be sustained by an appeal to the common sense of those to whom it is applied. 1 therefore repeat with added emphasis the sentiment already expressed that the hope of progress in State Medicine lies in the education of the people.

### REPORTS OF DELEGATES.

Dr. William Brodie, of Detroit, made a report as delegate to the Canadian Medical Association.

Dr. E. Seguin, of New York, made a report as delegate to the International Medical Congress which met at Geneva.

Dr. L. A. Sayre, of New York, made a verbal report as delegate to the British Medical Association.

Reports accepted, and Association adjourned to meet Wednesday at 9:30 A. M.

### SFCOND DAY.

The Association was called to order at 9:30 by the President, Dr. Richardson.

The Judicial Council made its report.

Dr. H. H. Smith, of Philadelphia, Chairman of the Section of Anatomy and Surgery, delivered his address, taking for his subject "Certain points on the Pathology of Bones, especially Tubercle." After alluding to the opinion of former years that the skeleton was intended to support the body, he mentioned that recently a new function had been assigned it, the bones being now regarded by many as a "focus for the origin of the white and red corpuseles of the blood and through which serious diseased matter was introduced into the general circulation."

After showing its connection with septiciemia and blood poison, he discussed the original progress of tubercles in the bones, and their influence on Pott's disease, both of which

he thought were of tubercular origin.

The address was a very learned one, and occupied the closest attention of the Association for nearly an hour. It was referred to the Publication Committee.

ferred to the Publication Committee.

Dr. Frank H. Hamilton next presented the essential features of an able paper prepared by Dr. E. Seguin, of New York, on

"The intervention of Physicians in Education."

Dr. E. W. Jenks, of Detroit, Chairman of the Section on Obstetrics and Diseases of Women and Children, delivered an address upon "The Causes of Sudden Death of Puerperal Women."

The Committee on Nominations was appointed.

A recess for ten minutes was taken to select the committees on nominations, and the following were appointed:

Arkansas-A. Linthecum. Colorado-J. F. Bancroft. Connecticut-B. H. Catlin. District of Columbia-J. M. Toner. Georgia-W. F. Westmoreland. Illinois-Moses Gunn. Indiana - Jas. F. Hibbard. Iowa—G. P. Hanawald. Kansas—C. V. Mothram. Kentucky-J. M. Bodine. Louisiana-O. P. Langeworthy. Massachusetts-C. T. Collins. Maryland -T, B. Evans. Maine-S. H. Weeks. Michigan-J. R. Thomas. Minnesota-C. P. Adams. Mississippi—W. M. Compton. Missouri-J. M. Allen. New Jersey—S. Lilly. New York-J. P. Gray. New Hampshire-Dr. Adams. North Carolina—Chas. Duffee, Jr.

Ohio—J. W. Russell.
Pennsylvania—A. Fricke.
Rhode Island—T. C. Lawton.
Tennessee—J. H. Van Deman.
Virginia—J. L. Cabell.
Wisconsin—W. Kempster.
West Virginia—Jno. C. Hupp.
United States Navy—Dr. Duvall.
United States Army—Dr. J. R. Smith.

The Association then adjourned to meet on Thursday at 9:30 A. M.

### THIRD DAY.

The Association was called to order by the President.

The Judicial Council made its report.

Dr. J. M. Toner chairman of the Committee on Necrology, presented the report which contained sketches of seventy-five members. He remarked that there were 850 names now upon the list of necrology of the Association.

Dr. A. L. Loomis, of New York, was then introduced and delivered an able address. He noticed some of the important advances made in practical medicine, physiology and materiamedica, and also discussed at length the climatic treatment of pulmonary phthisis. His address concluded with the following

practical suggestions:

"It seems to me that the necessities of our times are demanding the establishment not only of well organized and thoroughly equipped sanctariums by the sea, in the mountains, in the cold regions of the North, and in the warm regions of the South, but that our mineral springs should be utilized for the cure of disease. No one doubts but they are equal, if not superior to those of the old world, yet to-day we know more of the virtues of Karlsbad, Kissingen, Vichy and Honyadi waters, than those of Saratoga, Virginia, Arkansas and Colorado. Has not the time come, gentlemen, when some organized action should be taken in this matter?"

Dr. James White, of Buffalo, offered the following resolu-

tion:

"Resolved, That a committee of five be appointed to confer with General Meyer, upon the subject of making observations as to the existence of ozone in various localities, and take such other steps and measures in the matter as may be necessary for the success of the object."

After a discussion by Drs. Busey. White, Bell, Bronson,

Leonard, Loomis and Davis, the resolution was adopted.

The Committee on Nominations, through its chairman, Dr. Toner, announced that they were ready to made their report. Dr. Hupp, secretary of the committee, read the following,

which, upon motion of Dr. James P. White, of Buffalo, was

accepted and unanimously adopted.

After due consideration the Committee on Nominations respectfully report that they have nominated the following gentlemen for the various offices named, to wit:

For President—Theophilus Parvin, M. D., of Indiana.

For Vice Presidents—A. J. Fuller, M. D., of Maine; W. F. Westmoreland, M. D., of Georgia; John Morris, M. D., of Maryland; John H. Murphy, M. D., of Minnesota.

For Treasurer-Richard J. Dunglison, M. D., of Pennsyl-

vania.

For Librarian—Wm. Lee, M. D., of District of Columbia.

Committee on Library—John Eliot, M. D., of District of Columbia.

Next Place of Meeting-Atlanta, Ga.

Time of Meeting—The first Tuesday in May, 1879.

For Assistant Secretary—Scott Todd, M. D., of Atlanta, Ga. Committee of Arrangements—J. P. Logan, Chairman; H. V. M. Miller, G. G. Crawford, H. L. Wilson, J. F. Alexander, J. M. Johnson, Charles Pinckney, V. H. Talliferro, J. T. Johnson, of Atlanta, Ga.

Committee on Prize Essays—Robert Battey, of Rome, Ga.; J. G. Westmoreland, of Atlanta, Ga.; Wm. A. Love, of Atlanta, Ga.; Robert Kidley, of Atlanta, Ga.; Henry F. Campbell, of Augusta, Ga.; J. H. Van Deman, of Chattanooga, Tenn.

Committee on Publication—Dr. Wm. B. Atkinson, Chairman; T. M. Drysdale, M. D., A. Fricke, M. D., S. D. Gross, M. D., C. Wister, M. D., R. J. Dunglison, M. D., of Pennsylvania, and Wm. Lee, M. D., of District of Columbia.

The Committee also report the following nominations for

Chairmen and Secretaries of Sections for 1879:

1. Practice of Medicine, Materia Medica and Physiology—Dr. Thomas F. Rochester, of Buffalo, N. Y., Chairman; W. C. Glasgow, St. Louis, Mo., Secretary.

II. Obstetrics and Diseases of Women and Children—E. S. Lewis, of New Orleans, Chairman; J. R. Chadwick, of Boston,

Mass., Secretary.

III. Surgery and Anatomy-Moses Gunn, M. D., of Illinois,

Chairman; Dr. J. R. Weist, of Indiana, Secretary.

IV. Medical Jurisprudence, Chemistry and Psychology—Dr. Wm. M. Compton, of Mississippi, Chairman; L. M. Eastman,

of Maryland, Secretary.

V. State Medicine and Public Hygiene—Dr. John S. Billings, of District of Columbia, Chairman; Dr. J. T. Reeve, of Wisconsin, Secretary; Alabama, Jerome Cochran, Arkansas, W. B. Welsh; California, W. F. Cheeny; Colorado, C. Dennison; Connecticut, C. A. Lindsley; Delaware, Wm. Marshall; District of Columbia, T. Antisell; Georgia, J. W. Bailey; Illinois, H. A. Johnson; Indiana, James F. Hibbard; Iowa, J. A. Blan-

chard; Kansas, D. W. Stormont; Kentucky, S. Brandeis; Louisiana, Stanford E. Chaillé; Maine, A. P. Snow; Maryland, T. B. Evans; Massachusetts, H. I. Bowditch; Michigan, H. B. Baker; Minnesota, C. P. Adams; Mississippi, Wirt Johnson; Missouri, Jacob Geiger; New Hampshire, G. P. Conn; New Jersey, E. M. Hunt; New York, A. N. Bell; Ohio, J. C. Reeve; Pennsylvania, Benjamin Lee; Rhode Island, E. M. Snow; South Carolina, R. A. Kinlock; Tennessee, T. A. Acheson; Texas, H. W. Brown; Virginia, F. D. Cunningham; Vermont, L. C. Butler; West Virginia, E. A. Hildreth; Wisconsin, J. T. Reeve; Florida, G. W. Betton; North Carolina, C. J. O'Hagen; United States Army, Joseph Smith, of Fortress Monroe; United States Navy, Joseph Wilson, of Washington, D. C.; Oregon, H. Carpenter.

Committee on Necrology—J. M. Toner, M. D., of the District of Columbia, Chairman; Alabama, J. S. Weatherby; Arkansas, R. G. Jennings; California, Henry Gibbons; Colorada, R. G. Buchingham; Connecticut, G. W. Russell; Delaware, L. P. Buck; District of Columbia, W. W. Johnson; Georgia, T. S. Hopkins; Illinois, J. H. Hollister; Indiana, John Moffit; Iowa, C. C. Bradley; Kentucky, L. P. Yandell; Maine, E. F. Sanger; Massachusetts, J. R. Bronson; Maryland, J. H. Hartman; Michigan, W. F. Breakley; Minnesota, C. C. Cross; Missouri, A. J. Steele; New Jersey, John Blaine; North Carolina, N. J. Pitman; Louisiana, Samuel Logan; New York, J. P. Gray; Ohio, Thad. H. Reamy; Oregon, ———; Pennsylvania. Thomas H. Helsby; Rhode Island, C. H. Fisher; South Carolina, Manning Simmons; Tennessee, Thomas Menees; Texas, J. H. Stalnaker; Virginia, L. S. Joynes; Wisconsin, D. Mason; Vermont, O. F. Fassett; Mississippi, P. F. Whitehead; Kansas, C. V. Mattram; New Hampshire, L. G. Hill; West Virginia, Robert W. Hazlett; United States Army, J. J. Woodward of Washington, D. C.; United States Navy, Joseph Wilson, of Washington, D. C.; Nebraska, J. H. Peabody.

Judicial Council—To fill a vacancy caused by death, John P. Gray, of Utica, N. Y.; in place of the seven whose terms expire at this meeting, D. A. Linthicum, of Arkansas; Foster Pratt, of Michigan; A. Woodward, of Connecticut; J. M. Toner, of District of Columbia; J. Van Deman, of Tennessee; S. M. Benham, of Pennsylvania; R. N. Todd, of Indiana.

Dr. J. L. Cabell, of the University of Virginia, chairman of the section of State Medicine and Public Hygene, delivered an address advocating the establishment of a general board of health, considering this indispensable to any systematic measure to the successful inauguration of State Medicine.

The Association adjourned to meet on Friday, June 7, at 9:30 A. M.

### FOURTH DAY.

The Association was called to order by the President, Dr. Richardson, at 9.30 A. M.

The President announced that pursuant to a resolution offered by Dr. White in yesterday's session he has appointed the Committee on Ozone as follows: Dr. N. S. Davis, of Illinois, chairman; Dr. J. S. Billings, of United States Army, Dr. W. N. Geddings, of South Carolina, Dr. J. M. Toner, of the District of Columbia, and Dr. S. M. Bemiss, of Louisiana.

The following communication was received from the Medical Society of the State of Pennsylvania and, after being read by the Secretary, was ordered entered on the minutes:

"At the annual meeting of this body held in Pittsburg, May

1878, it was unanimously

Resolved, "That the Medical Society of the State of Pennsylvania, recognizing the advantages of the metric system from its universality, simplicity and scientific character, does recommend the use of the same to the members of the Society and urges them to familiarize themselves with it, and to advise their students to use it exclusively when they commence their medical career."

Resolved, "That all communications made to this Society in which reference is made to weights and measures the metric

system only should be used,"

Resolved, "That the Secretary of this Society is instructed to bring this action of this Society to the notice of the American Medical Association at its next meeting and urge upon the National Association a similar action."

The preamble and resolutions were adopted.

A resolution was offered by Dr. Seguin asking the confirmation of Drs. Sims, Drysdale and Seguin as Commissioners and Delegates for the question of medical uniformity in Europe, to report next year. Adopted.

Dr. Davis next offered the following resolution which was

adopted:

Resolved, "That the section on Practical Medicine, Materia Medica, and Physiology recommend the appointment by the American Medical Association of a committee of five members, to whom shall be referred so much of the recommendations in the address of the President of that section as relates to the establishment of proper sanitaria for consumption, and the more accurate utilizing of the various mineral waters of our country with instructions to report at the next meeting of the Association."

Accordingly the President appointed the following members as such committee: Dr. H. I. Bowditch, of Massachusetts; Dr. A. N. Bell, of New York State; Dr. J. L. Cabell, of Virginia:

Dr. S. E. Chaillè, of Louisiana; and Dr. Charles Dennison, of Colorado.

The President announced the following delegates:

To European Medical Societies.—Drs. Sims, Drysdale, Seguin, Daly, Halberstadt, Levis and W. H. Pancoast.

To the Canadian Medical Association—Drs. Brodie, Tod I, E. N. Brush and W. Clarke.

The following report of the Committee to secure the appointment of State Boards of Health was presented and adopted:

"Your Committee, consisting of the President and Permanent Secretary, who are required to report annually the results of their efforts for the organization of State Boards of Health, respectfully report that they have addressed the Governor of each State where a Board of Health has not been organized the following memorial: A few executives have courteously acknowledged this communication and expressed their earnest desire to further our efforts. We are happy to announce that three additional State Boards have been organized, making nineteen in all, viz.:

Alabama, California, Colorado, Connecticut, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Mississippi,

New Jersey, North Carlina, Tennessee, Rhode Island, Virginia, Wisconsin.

Dr. X. C. Scott, called up the resolution of last year, creating a new Section of Ophthalmology, Otology and Laryngology, to be known as Section VI, and moved its adoption. Carried.

On motion of Dr. E. Smith, of Detroit, Dr. H. Knapp, of New York, was made Chairman of the new section, and X. C. Scott, of Ohio, was made Secretary.

The Treasurer made his report. Report adopted and referred

to the Publicati Conommittee.

The Committee on Prize Essays made its report. The successful essayist proved to be Dr. John A. Wyeth, of New York city.

Resolutions in relation to the late Professor Joseph Henry,

of the Smithonian Institute, were unanimously passed.

Dr. Parvin, the President elect, was introduced by President Richardson with a few complimentary remarks, and the former returned his thanks for the honor conferred in eloquent and fitting terms.

Resolutions of thanks to the medical profession and citizens of Buffalo for their hospitable entertainment were unanimously passed.

The association adjourned sine die.

# REGULATIONS

OF THE

# Orleans Parish Medical Society.

# CONSTITUTION.

PREAMBLE.

# Title and Object.

THE ORLEANS PARISH MEDICAL SOCIETY, organized April 22d, 1878, shall have for its objects:

- (1.) The union in this Society of all the reputable members of the regular medical profession, residing in this parish, and co-operation with the medical profession throughout the State in sustaining the Louisiana State Medical Society.
- (2.) The advancement of State Medicine, i. e., of Public Hygiene (or Preventive Medicine), of Medical Education, of Medical Jurisprudence, and of Public Institutions for the sick and the infirm;
- (3.) The cultivation of medical knowledge, and particularly of such parts thereof as may be of special importance to this parish and State:
- (4.) The elevation of professional character and attainments, and the promotion of the welfare in all matters relating to medical science of the profession and of the public.

### ARTICLE I.

# Mode of Government.

SECTION 1. This Society shall be governed by such Regulations, as may be specified in its Constitution, By-Laws, and Ordinances (or Resolutions); and as to matters, not so specified, it adopts the Common Parliamentary Law, and the Code of Ethics of the American Medical Association.

SEC. 2. Any suspension or alteration of the Constitution shall require a unanimious vote, unless proposed in writing at a preceding regular meeting, in which case a vote of two-thirds of the voting members present shall be required; provided, that an amendment germain to the subject shall be in order and may be adopted, though not submitted at a previous meeting. The By-Laws may be suspended or altered by a vote of two-thirds, and the Ordinances by a majority, at any Regular Meeting.

### ARTICLE H.

### Members.

SECTION 1. (Qualifications.) Every physician to be a member of this Society must be (1) a graduate of a reputable medical college, (2) socially and professionally in good repute, (3) obedient to the Code of Ethics, and (4) a subscriber to the Regulations of this Society.

SEC. 2. Men of worth and culture, occupied in pursuits calculated to directly promote the objects of this Society, may, though not graduates in medicine, be elected members.

SEC. 3. There may be two classes of members, (1) Regular Members, and (2) Honorary Members. Honorary Members shall not be assessed, shall not have the right to vote, and shall require for election the ballots of three-fourths of the members present at a regular meeting, succeeding a regular meeting at which they have been proposed for Honorary Membership.

### ARTICLE III.

# Officers.

SECTION 1. The Officers of this Society shall be, one President; not less than three (3) Vice Presidents, and if only three, one shall be for the 1st and 5th, one for the 2d and 3d, and one for the 4th, 6th and 7th Districts of Orleans Parish; one Recording Secretary who shall also be Treasurer, and one Corresponding Secretary who shall also be Librarian.

SEC. 2. Only physicians, who are regular members, shall be elected officers.

SEC. 3. The President, and Vice Presidents shall serve for the term of one year, and the Secretaries for three years, said terms to expire at the annual meeting; but in no case shall an officer vacate his place until his successor has been chosen.

### ARTICLE IV.

### Committees.

SECTION 1. Standing Committees shall be appointed on (1) The efficient organization of this Society: (2) Judiciary;

(3) State Medicine and Legislation; (4) Scientific Essays, Reports and Discussions; (5) Publication.

SEC. 2. Special Committees, and additional Standing Committees may be appointed at the discretion of the Society,

SEC. 3. The chairman of any committee shall be appointed by the President, and the remaining members by the President, with the consent of the chairman, or of the society; except, as to the Committee on Efficient Organization, which shall be composed of the President, the Vice Presidents, and the Corresponding Secretary; and as to the Judiciary Committee, the members of which may be increased at the discretion of the Society, by the election of additional members.

### ARTICLE V.

### Annual Orator.

SECTION 1. The Society shall elect annually an orator, whose duty it shall be to deliver a public address designed to interest, in the objects of this Society, a non-professional audience.

### ARTICLE VI.

# Delegates.

SECTION 1. Delegates to the Louisiana State Medical Association, to the American Medical Association, and to such other scientific bodies, as this Society may deem advisable that it should be represented in, shall be elected annually, or in default thereof, be appointed by the President.

### ARTICLE VII.

# Funds and Appropriations.

SECTION 1. Funds shall be raised by this Society for meet-

ing its current expenses and awards, by an equal assessment on each of its regular members.

SEC. 2. Funds may be appropriated, (1) for defraying the expenses of the meetings, (2) for enabling the officers and the committees to fulfill their respective duties, conduct their correspondence, and procure the materials necessary for their records and reports, (3) for the payment of such equal assessments as may be imposed on affiliated Societies by the State Medical Association for its support, (4) for publishing the proceedings and transactions of this Society, (5) for establishing a library, and (6) for the encouragement of scientific investigations.

# ARTICLE VIII.

# Meetings.

SECTION 1. There shall be not less than one regular meeting monthly; one of which shall be the annual meeting, for the election of officers, the presentation of annual reports, the annual oration, and for such other proceedings as may be directed.

SEC. 2. The President shall call a special meeting whenever he may deem proper.

SEC. 3. The Society shall adopt an "Order of Business" and such other "Rules" as it may deem necessary to conduct properly the proceedings of the meetings.

# BY-LAWS.

# ARTICLE 1.

# Mode of Government.

SECTION 1. (Quorum.) Nine regular members shall constitute a quorum.

SEC. 2. (Mode of Voting.) Regular members and officers shall be elected by the ballots of a majority of the regular members present. The mode of voting in all other cases, except when otherwise specified in the Constitution, or when otherwise determined by the Society, shall be by viva voce vote of a ma-

jority; provided, that one-third of the regular members present shall have the right to demand the record of the yeas and nays.

### ARTICLE II.

### Members.

- SECTION 1. Every member must, before taking part in the proceedings, sign the regulations of this Society, inscribing his name and address in full, and the title of the institution by which, with the year when, graduated; and must pay all sums due by him to the society.
- SEC. 2. No person shall be elected a member of this Society at the same meeting when his name may be proposed, nor unless recommended by two members as possessing fully the qualifications for membership. In any case, at the request of two members present, such proposal for membership shall be submitted to the Judiciary Committee for report at the following meeting.
- SEC. 3. Any member may resign, provided that he has paid all dues, and that there be no charges against him. Any member neglecting two official notifications to pay his dues, shall forfeit membership and shall not be re-elected until said dues shall have been paid.
- SEC. 4. No member present shall be excused from voting, except by a majority of those present.
- SEC. 5. No member shall be required to read his own address, report, essay, or other paper; provided that a member, well known to be a good reader, be ready to act as his substitute.
- SEC. 6. Medical men, or men learned in the collateral branches of science, on a visit to Orleans Parish, may be permitted to attend meetings on being introduced by a member of this Society.

### ARTICLE III.

### OFFICERS-DUTIES OF.

### President.

SECTION 1. The President shall (a) preside, with the assist-

ance of the Vice Presidents, at all meetings; (b) appoint all committees, as provided in Section 3, Article 10, of the Constitution; (c) fill ad interim all vacancies that may occur; (d) call special meetings; (e) inspect the records and archives of the Society and report any inaccuracies and delinquencies in reference thereto; (f) approve or disapprove all requisitions on the funds of the treasury; (g) give a casting vote when necessary; (h) act as Chairman of the Committee on the efficient organization of this Society; (i) report, at the close of his term of office, what has been accomplished to promote the objects of this Society, recommending such measures as he may deem necessary to promote these objects more effectively; (j) and perform all such other duties as this Society, custom and parliamentary usage may require.

### Vice Presidents.

SEC. 2. (a) Such Vice President as the President or the Society may select shall, in the absence of the President from the meeting or from the chair, discharge his duties, and if all these officers be absent, the Society shall elect a President pro tem; (b) each Vice President is charged with the special duty of promoting the efficient organization of this Society, and shall be a member of the committee for this purpose.

# Recording Secretary and Treasurer.

SEC. 3. (a) This officer shall keep one or more books for the record of (1) the regulations of this Society (with any further changes thereof arranged for ready reference), the names of members subscribed thereto (see Section 1, Article II, By-Laws), and a list of officers and members alphabetically arranged; (2) the minutes of the proceedings; (3) the receipts, expenses, debts, credits and property of the Society. (b) He shall give notice, when necessary, of meetings, of any special duty imposed on a member, of the fees due by each, and of election to membership in the Society. (c) He shall collect all fees and other sums due, notify delinquents of the necessity for prompt payment, and report the names of persistent delinquents to the Society. (d) He shall report annually the finan-

cial condition of the Society, recommending such measures as he may deem necessary.

# Corresponding Secretary and Librarian.

- SEC. 4. (a) This officer shall keep one or more books for the record of (1) the correspondence of the Society; (2) the catalogue of its books and scientific property, and (3) the alphabetical registration of all practitioners of medicine in Orleans Parish on December 31st, of every year. This alphabetical list shall, as far as practicable record the names, residence, institution, by which, and year when, graduated, of every practitioner in Orleans Parish, dividing these into three classes, viz.—practitioners of unquestionable good standing,—practitioners of unknown or doubtful repute, designating which, and irregular practitioners, designating whether homeopaths, eclecties, Thompsonians, etc.
- b. He shall be a member of the Committee on the Efficient Organization of this Society.
- c. He shall present an annual report, which shall contain, among other things, a list of the deaths, removals, and arrivals (for permanent residence) of practitioners in Orleans Parish during the year, closing with the last day of the year.

### ARTICLE IV.

### COMMITTEES-DUTIES. ETC.

Section 1. This Committee composed of the President (as chairman), of the Vice Presidents, and of the Corresponding Secretary shall devise and recommend measures to promote the efficiency of this Society; and shall report annually all measures necessary to be adopted, in order to support the State Medical Association and to maintain affiliation therewith.

# Judiciary Committee.

- SEC. 2. (a) This Committee shall consist of not less than five members.
  - (b) It shall take cognizance of and report upon questions

of an ethical or judicial character that may arise in connection with this Society,—shall investigate the status, if questionable, of any member, or of any person proposed for membership,—and shall consider all questions of a personal character, such as complains, protests, etc.

- (c) A charge against a member of this Society, must be made in writing to the President, who shall report the charge to the Society, as also to the accused member and refer it to the Judiciary Committee, the members of which may be increased at the discretion of the Society. The Judiciary Committee shall, after due notice to the accused member, investigate the charge; shall keep an accurate written record of the facts and evidence in the case; shall prepare a summary of the chief facts agreed to by both parties, and of those in dispute with the evidence pro and con thereon, adding thereto the recommendation of each member of the Committee; which recommendation shall be to dismiss the charge, to exonerate, to fine, to reprimand, to suspend, or to expel the accused member. All the proceedings of the Committee shall be referred to the Society for final action thereon, at a meeting to which all the members have been summoned, with notice of the special business to be disposed of. A vote of two-thirds by ballot, of all members present shall be required a expel a member; a majority, by recorded yeas and nays, shall effect the decision of any issue involved, other than expulsion.
- (d) If, after due notification, an accused member fail to appear at the time and place of trial, he shall, unless satisfactory excuse be rendered at the time, be considered as admitting the truth of the charges against him, and shall be liable to sentence accordingly.

# Committee on State Medicine and Legislation.

SEC. 3. (a) This Committee shall consist of not less than five members, and shall from time to time report to the Society upon the condition, needs and prospects in Orleans parish of each one of the four branches of State Medicine.

(b) It shall recommend the enactment, repeal, or modification of such laws and city ordinances, relating to medical interests as it may deem advisable, presenting these recommendations in the form and words, which it is proposed shall be enacted.

# Committee on Scientific Essays, Reports, Discussions.

SEC. 4. (a) This Committee shall consist of not less than three members. (b) It shall make provision for and have general supervision over the scientific proceedings of the meetings; selecting a list of essayists, and reporters, and of subjects for discussion, to the end that each meeting of the Society may be made instructive and attractive to the members. (c) It shall particularly encourage the consideration of all medical subjects of special importance to the parish, and to this State.

### Committee on Publication.

SEC. 5. This Committee shall consist of not less than three members, and the chairman of the Committee on Scientific Essays, etc., the Recording Secretary and Treasurer, and the Corresponding Secretary and Librarian shall be members of said Committee, with the Recording Secretary and Treasurer, as chairman thereof. It shall discharge the duties usually assigned such a committee; and in the discharge of these duties it shall require that there shall be attached to the published reports and original papers belonging to this Society the following: "The Orleans Parish Medical Society, although publishing or recommending for publication the reports of committees, original papers of its members, etc., holds itself irresponsible for the opinions, theories, and criticisms therein contained, except when otherwise decided by special resolution."

### ARTICLE V.

### Annual Orator.

SECTION 1. An orator shall be elected at a regular meeting to deliver an address at the succeeding annual meeting. He need not be a member of this Society.

### ARTICLE VI.

# Delegates.

SECTION 1. The Committee on Organization shall recommend to the Society at appropriate times members for election or appointment as delegates; notifying the Society of the number of delegates to the State Medical Society, and to the American Medical Association, to which this Society is entitled.

### ARTICLE VII.

# Funds and Appropriations.

SECTION 1. The annual fee due by each regular member shall be, until otherwise ordered by the society, \$3.

SEC. 2. Funds may be disbursed by the Treasurer for the payment of (1) the necessary expenses of the meetings; (2) the necessary expenses of officers and committees; and (3) the assessment of the State Medical Association—upon a requisition signed by a member and approved by the President. Funds shall not be disbursed for other purposes unless approved by vote of the Society.

### ARTICLE VIII.

# Meetings.

Section 1. The regular meetings shall be held, until otherwise ordered by a majority of the Society, in the buildings of the Medical Department of the University of Louisiana, on the last Monday of every month, at  $7\frac{1}{2}$  P. M. The annual meeting shall be the regular meeting in the month of March.

# Order of Business.

- SEC. 2. The order of business shall at all times be subject to the vote of two-thirds of all the members present; and until permanently altered, except when for a time suspended, it shall be as follows:
- (1) Call to order; (2) reading and consideration of the minutes; (3) reading of communications; (4) proposals for membership; (5) report of officers and of committees and action

thereon; (6) election of members; (7) unfinished business; (8) new business; (9) reading of original papers and discussion thereof; (10) debate on a subject selected by the Committee on Scientific Essays, etc., and announced at a previous meeting, to be opened by a member appointed by the President; (11) relation of cases and of medical news; (12) arrangement and announcement of scientific work for the following meeting; (13) adjournment.

### Rules.

- SEC. 3. (1) The reading of no report, essay, or original paper shall in its delivery exceed thirty minutes, unless by special permission of the society, and no speaker shall, in debate on any one subject, exceed ten minutes, nor speak more than once, until every member, choosing to speak, shall have spoken—nor shall he speak more than twice without leave of the Society.
- (2) A member shall not interrupt another, while speaking, unless to call him to order or to correct a mistake, and interruptions for these purposes shall not be considered as speaking in debate.
- (3) A vote shall not be reconsidered at the same meeting by a smaller number than was present at its passing.
- (4) When a report is read it is thereby received; and when received, it may at any time be considered, and in whole or in part may, by vote of the Society, be accepted, and thereby is adopted.

# EDITORIAL

### AMERICAN MEDICAL ASSOCIATION.

We give a large deal of space to reports of the late meeting of the American Medical Association. The entire profession of the Union may congratulate itself upon the success of this Congress, whether viewed in its strictly scientific, or in its business, or social aspect. The meeting was largely attended by the most eminent and working members of our profession. The address of the President is one of the best ever made before any meeting of this body, and as our readers may determine for themselves, is made up of practical and therefore important suggestions respecting present and future work. The papers read in the various sections and discussions relating to them, are pronounced worthy of the representatives of a great and learned profession. The President elect is a gentleman whose merits well fit him for the office to which he was chosen.

What more can be asked of our annual convocations than that each one in the future shall endeavor to sustain the standard of excellency which this one has reached? A notice of this meeting is not complete without a complimentary allusion to its social features. The entertainments are spoken of as the most sumptuous and elegant imaginable, and yet characterized by such a refined and dignified bestowal of hospitalities, that those who participated, look back to them as occasions of intense, but rational enjoyment.

### MEDICAL COLLEGE ASSOCIATION.

With regard to the Medical College Association, very little can as yet be reported. That little, however, is favorable. We reprint the following resolution, and also an abstract of a resolution by Prof. Austin Flint, Jr.:

Resolved, That the Secretary of the Association be and is hereby directed to furnish, one in each year, to each and every college member and to each affiliated college, a printed list of college members and affiliated colleges, the diplomas and tickets of which are to be recognized by the college members and affiliated colleges; and also to furnish to college members and affiliated colleges, a printed list of those colleges (not including irregular colleges) of the United States that are not affiliated, and that are not eligible for membership of the Association, the diplomas and tickets of which are not to be recognized by college members and affiliated colleges; and also to furnish with said list of colleges not to be recognized, the dates at

which said colleges had become ineligible for membership of the Association, and after which the diplomas and tickets of said colleges are not to

be recognized.

Prof. Flint offered a preamble and resolution in effect that the tickets and diplomas of the Nashville Medical College shall not be recognized by the Association so long as the institution gives two graduating courses a year, and accepts three years' practice in lieu of a course of lectures.

We fully endorse these resolutions.

### THE RESURRECTION EXCITEMENT.

The exhumations of the bodies of several highly respectable persons for the use of college dissecting rooms are events much to be regretted. No one can clear the schools implicated in these occurrences of conduct highly imprudent and unguarded. The employees of a medical school to whom the business of furnishing material is entrusted, should be held severely accountable for any failure to observe the restrictions thrown around them by their employers. But we are quite sure that no charges more criminal in their nature, than mere want of proper care, can be sustained against the faculties in question. We should therefore accord them our comfort and sympathy, if no more. On the other hand, neither those gentlemen of our number whose unfortunate circumstances have given them painful prominence in these events, nor the whole profession at large, can say one complimentary word, in regard to the conduct of the public press as relating to this subject. The columns of the newspapers teem with accounts of dissecting room scenes which could not by any sort of possibility occur in the anatomical halls of a well ordered college. Not content with these most absurd pictures, drawn entirely from imagination, they have added horrible falsehoods, as for example, the story of the medical student's dinner upon human flesh. Such itemmongers as these, exhibit a spirit of depravity worse in its essence, and far more injurious in its effects, than that which impels the resurrectionists to violate the narrow homes of the most respected and beloved of our departed friends.

### BOOK NOTICES.

Notices of a number of new books will appear in our next, having been forced to omit them on account of press of matter.

ERRATUM.—In the foot note, page 22, read "Haustus Quiniæ" for "Houstus Quinine."

### PAMPHLETS RECEIVED.

Lithotomy. A Tabulated Statement of Cases, with consideration to the operation. Treatment and the preventive most promising of success. By David Prince, M.D. Jacksonville, Ills. Reprint from the St. Louis Medical and Surgical Journal.

Treatment of Diphtheria. By P. H. Whitehead, M.D. Vicksburg, Miss. Reprint from the Eleventh Volume of Transactions of the Mississippi State Medical Association.

Treatment of Cronic Aural Discharges. By Julian J. Chisolm, M.D., Prof. of Eye and Ear Diseases University of Maryland, and Surgeon in charge of Baltimore Eye and Ear Itstitute. Reprint from North Carolina Medical Journal.

Certain Symptoms of Nervous Exhaustion. By George M. Beard, M.D., Fellow of the New York Academy of Medecine, &c. Read before the New York Academy of Medicine. Reprint from Virginia Medical Monthly.

Suggestions in the Treatment of Spinal Diseases and Curvature. By E. H. Coover, M.D., Harrisburg, Pa.

Objections to the use of Carbolic Acid in the Treatment of Piles. By J. M. Matthews, M.D., Louisville, Ky. Reprint from the Medical Bi-Weekly.

The Paralysis of Pott's Diseases: Being a Clinical Study of fifty-eight cases. By V. P. Gibney, A.M., M.D., Assistant Surgeon to the Hospital for the Ruptured and Crippled. New York. Reprint. Chicago: J, J. Spalding & Co.

Is there a Proper Field for Battey's Operation? By Robert Battey, M.D., Rome, Ga. From the Author.

Sterility and its Treatment. By William H. Wathen, M.D., Clinical Lecturer on Diseases of Women and Children, Louisville Medical College. Reprint from the Transactions of the Kentucky State Medical Society.

Medical Education. Extracts from Lectures delivered before the John Hopkins University, Baltimore. By John S. Billings, M.D., Surgeon United States Army.

A Consideration of some of the Errors incident to the Ordinary Methods of Determining the Relative Lengths of the Lower Extremities. By John Bartlett, M.D. Reprint from the Chicago Medical Journal.

# METEOROLOGICAL REPORT FOR MAY, 1878.

	TEMPERATURE.			Ter	Relative Humidity Daily.	98			
-g			1	Barometer Daily.	nid	Rain fall-Inches.			
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1	81	66	15	30.034	67.0	.00			
2	83	63	20	29.941	67.7	.00			
3	82	66	16	29.927	68.0	.00			
4	76	64	12	30.018	59.3	.00			
5	80	60	20	30.068	51.3	.00			
6	80	61	19	30.064	61.0	.00			
7	80	65	5	30.025	68.7	.00			
8	82	71	11	30.052	72.3	.00			
9	81	68	13	30.093	64.7	.00			
10	80	70	10	30.123	50.3	.00			
11	79	65	14	30.130	57.0	.00			
12	79	67	12	30.009	64.0	.41			
13	81	67	14	29.890	67.7	.05			
14	79	65	14	29.906	71.0	.00			
15	76	63	13	29.970	67.7	.00			
16	80	65	15	29.862	79.3	.27			
17	83	67	16	29.875	84.3	2.06			
18	83	68	15	29.855	81.0	.00			
19	78	67	11	29.921	82.0	3.54			
20	78	71	7	30 034	82.7	.25			
21	86	70	16	30.077	81.3	.21			
22	86	71	15	30.054	80.3	.00			
23	86	71	15	30.088	73.7	.00			
24	86	72	14	30.102	73.7	.00			
25	86	73	13	30.011	69.0	.00			
26	87	71	16	29.903	66.3	.00			
27	87	71	16	29.866	79.0	.77			
28	88	71	17	29.949	76.3	.00			
29	87	71	16	29.974	72.3	.00			
30	89	72	17	30.009	63.3	.00			
31	88	74	14	30.018	61.7	.00			
						Total:			
Mean	82.54	67.93	14.54	29.995	69.8	7.56			

MORTALITY IN NEW ORLEANS FROM MAY 26 TO JUNE 23, 1878, INCLUUSIVE.

Week Ending.	Yellow Fever.		Consumption.	Small- pox.	Pnen- monia.	Total Mortality.
May 26	0	6	17	3	5	109
June 2	0	5	26	7	14	122
« 9	0	4	21	3	4	106
" 16	0	5	19	7	5	111
£ 23	0	4	18	1	1	105
Totals	0	24	101	21	29	553

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

# AUGUST, 1878.

# ORIGINAL COMMUNICATIONS.

History of a Phosphatic Calculus spontaneously expelled through the vagina, from a cyst of the anterior vaginal wall.

(Read before the Orleans Parish Medical Society on the 24th June. 1878,)

BY THOMAS LAYTON, M. D. P.

On the 9th April, 1878, I was called to see Mrs. S., residing on Seventh street, near Constance, and was subsequently made acquainted with the following history: Mrs. S., is a native of New Orleans; she is now forty-nine years of age. She has been a widow since 1861. She bore nine living children in rapid succession, and had no miscarriages; she nursed all her children. She is a tall, larged limbed woman, of swarthy complexion, with dark hair and eyes. She is intelligent and a type of the Spanish Creole. Until lately, she was fleshy. Her menstruation has always been perfectly regular until three years ago. During her menstrual life, the flow was copious, lasting six or seven days every month. Up to about the time when this history begins, she had never suffered from any uterine or other disorder, with a single exception to be men-

tioned later, and, in a word, she considered herself a remarkably healthy person.

Towards the commencement of 1875, the interval between her menstrual periods began to lengthen, and the quantity of blood lost each time lessened perceptibly. This altered condition of menstruation was deemed natural both by herself and her friends, especially as it was attended neither by inconvenience nor sexual malady, and a year and a half ago, the menopause appeared to have been safely reached.

In the summer of 1875, she contracted intermittent fever, for which she was treated by a physician, with but indifferent success, for three months, at the expiration of which, she was counselled by her medical attendant to visit the sea shore, whence, after a stay of some duration, she returned cured of her malarial troubles.

Her health remained good, until the month of January of this year, when she began to suffer intensely from a pain in the left side, in the inferior costal region.

The physician, who had attended her in 1875, having died in the meanwhile, another professional gentleman saw her, and, according to her statement, diagnosed malarial enlargement of the spleen, for which, according to her statement again, she was blistered and purged, with the result of relieving the pain in about three weeks time, when the physician discontinued his services.

From this moment however, she began to lose flesh, and her friends noticed that her complexion was becoming pallid. The loss of flesh, although general, was more particularly visible about the abdomen and hips, which, from a condition of previous fullness and firmness, became shrunken and flaccid.

During the month of February, she felt pains in the abdomen, which frequently became enlarged, and at the same time, she experienced a sensation of weight in the pelvis, whilst in the act of walking. The abdominal pain was referable to the inferior portions of the cavity, with perhaps a tendency to localization over the site of the right ovary. With regard to

this last point however, her recollections are not absolutely positive.

Acting upon the advice of her friends, she concluded to visit a midwife living in the Second District of this city, because it was suggested that her condition might be due to uterine cancer. The midwife examined her with a speculum, on the 11th of March, and assured her of the non-existence of cancer, but affirmed the existence of inflammation and extensive uterine ulceration, whose curation was declared to be quite feasible, under a course of cauterization. This, Mrs S. consented to, and visited her nine times, being cauterized twice a week. The cauterizations were severe and followed by pain, loss of blood and the passage of a substance compared to pieces of flesh or skin.

Mrs. S. and her niece, an intelligent lady, who was present at these cauterizations, say they were informed by the midwife, that nitrate of silver (probably in stick form) was the caustic employed. The remainder of the treatment consisted in baths and vaginal injections with a decoction of poppy heads.

After the ninth visit to the midwife, and after the eighth cauterization, Mrs. S. was seized with an attack of acute dysentery which confined her to bed, and compelled her to suspend the treatment detailed above. I was sent for on the 9th April, to attend the lady in her attack of dysentery, which proved tractable, yielding readily to the therapeutic measures adopted. Upon becoming convalescent, the patient apprized me of the foregoing facts in her history, and desired me to make an examination of her womb. I declined doing this, because she was under the charge of the midwife, and withdrew.

Shortly after, I was again sent for, and informed that the midwife's further services had been dispensed with, and upon renewed solicitation, I decided upon making a digital examination, as I had come unprovided with instruments.

On introducing the finger, instead of meeting with a cervix, more or less conical, and projecting to a greater or less extent into the vagina, I found a cavity with sharp, wiry edges, not unlike the condition frequently offered by the os during labor. In a word, the infra-vaginal portion of the cervix had entirely disappeared, and the sharp, wiry edges mentioned above were formed by the junction of the vagina and uterine substance. The diameter of the orifice of the cervical cavity was about equal to that of a twenty-five cent piece. The index penetrated for some distance into this cavity, which was conical, and whose walls were rugous, or lined with granulations breaking down easily under the finger. The body of the womb was enlarged and in a moderate state of anteversion, still it did not appear to have contracted adhesions, as the entire organ was mobile. The uterus was judged to have attained an enlargement corresponding to the growth noticed after three months of pregnancy, because the fundus could be distinctly felt above the symphysis pubis.

On withdrawing the finger from the cervical cavity just described, for the purpose of carefully exploring the vagina, a number of indurated spots were discovered apparently infiltrated into the vaginal walls and forming an interrupted circle around the vagina at a point estimated to be probably not less than half an inch, and not more than three-quarters of an inch below the vaginal insertion. This broken, nodulated circle appeared to be upon an oblique plane, the anterior segment of the circle being perhaps a little lower than the posterior. The indurated spots produced a sensation of thickening; they were flat, and did not seem to offer a greater diameter than that of a pea, except upon the posterior and anterior walls, as will be described, and the interrupted circle alluded to was formed of perhaps six or eight of these nodes. The induration upon the posterior wall was diffuse and seemed to extend upwards to the cervix, with whose substance it became fused.

The induration upon the anterior wall of the vagina was the most prominent of all, its projection into the vagina being of about the size of a green pea.

Upon the withdrawal of the finger, no odor was detected, but it was found to be bathed in a sanious fluid, which also trickled from the vulva.

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The patient's attention being called to this discharge, she stated that from about the time the midwife had begun to cauterize her, she had observed her linen to be stained by a liquid, whose appearance she likened to that of water, in which raw meat had been washed.

The day following; I returned to Mrs. S.'s residence, taking with me different specula.

Upon applying Sim's instrument, I was struck with the pendulous, flaccid condition of the abdominal tissues, which hung down in folds, like the skin of a rhinoceros. This flaccidity had not escaped the notice of the sufferer, who reiterated her previous statement, concerning its recent occurrence.

I obtained a good view of the parts, and saw what my finger had detected the day before.

The indurated spot upon the anterior vaginal wall was distinctly visible, resembling a teat of flesh or conical granulation. whose apex, directed towards the vaginal cavity, was ulcerated, as though denuded of epithelium. The vagina below the zone of indurated spots was of a delicate pink hue, and furnished no secretion, being in contrast with the cavity described as existing in the cervix, from which a small quantity of the sanious fluid, already alluded to, was trickling. The diagnosis did not seem to admit of much doubt, the age of the patient, the destruction of the cervix, and the sanious fluid noticed, as well as the existence of the indurations of the vaginal wall, apparently pointing to cancer.

The prognosis was however held in reserve, and a guarded opinion expressed, because, in the first place, the repeated cauterizations, the lady had undergone, were recent, and although it was hardly possible that the destruction and indurations were the result of injudicious action on the part of the midwife, still such a result might have followed the employment of caustics by her, and in this event, time would prove an important factor in bringing about a solution of the difficulty.

In the second place, careful inquiry into hereditary influences in the family of the patient failed to develop any history of cancer or gout. (It is useful to say in this place, by way of parenthesis, that the mention of gout is introduced, with the view of subserving future purposes.)

Mrs. S., was the ninth child, and was a few months old, when she lost her mother, who died, at the age of forty-seven years, according to family tradition, from the rupture of an internal abscess due to an injury received whilst lifting a heavy tub. Her father died suddenly in his eighty-first year.

For obvious reasons, the treatment recommended was expectant, and generous diet was insisted upon.

I did not see the case again for several days, when upon introducing the finger, the condition of the parts was found to have undergone no material change, except, that the teat of flesh, which has been described as being situated high up on the anterior vaginal wall, was noticed to have become enlarged, and to have attained fully the size of a red bean. Careful exploration with the finger revealed the fact, that a hard substance, upon which the nail grated, and which was mobile, appeared to be working its way through the apex of the teat, coming into the vagina, from the direction of the bladder.

Being much surprised at this unexpected event, I inserted a Sim's speculum, and the increased size of the teat was plainly visible, and a dark colored body was also distinctly seen protruding from the apex into the vagina, perhaps to the extent of a quarter of an inch. (The mensuration is however, of course, only approximative.)

Not being provided with a female dressing forceps, the speculum was withdrawn, and an attempt was made to enucleate this strange product with the finger. Although mobile, it could not be dislodged, and the endeavor was abandoned, owing to an annoying hemorrhage which occured.

The patient and her niece were informed that something in the shape of a hard body might pass through the vulva, and they were instructed to be on the look out, and carefully preserve it, in the event of its transit.

Circumstances prevented my seeing the patient for nearly a week, when I received a visit from her niece, who informed me. that, on Friday, May 17th, on the second day after my last visit. Mrs. S., whilst using the vessel had felt something pass through

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the labia, and had heard the noise produced by its fall upon the bottom of the vase.

The ladies at once examined the urine and removed the stone, for such it was, which I received from my visitor.

I inquired, if there had been, at any time since its passage, dribbling of urine through the vagina, and was given a negative reply.

I examined the stone carefully. It was regularly ovoid, and presented somewhat the appearance and shape of a large spanish olive.

Its length was one inch, and its greatest diameter was sixty-eight one hundredths (68) of one inch. (I will say here, by anticipation, that the above mensuration was kindly made by Professor Joseph Jones.)

I weighed the stone, and found its weight to be seventy-six (76) grains Apothecaries' weight.

It was of a dark color, and, in spots, its surface resembled that of a mulberry.

No odor was detected.

At the smaller of its extremities, a circular portion of the outer layer or crust had been fractured, apparently as the result of its fall upon the bottom of the vessel. Inspection of the fractured spot showed an external layer of whiteish hue, which in places was very thin, and elsewhere measured from to to it of an inch in thickness. This external layer could be compared to a cement destined to fill up interstices, and give the stone its generally regular ovoid shape.

The same external layer, too, was enveloped in a thin coating of dried animal matter and clotted blood, which doubtless caused the dark color of the outer surface mentioned above.

The whiteish substance just described was friable and excentric to another and more deeply shaded stratum plainly visible at the bottom of the fracture.

I visited Mrs. S. at the earliest opportunity. Examination showed that the parts had undergone no change of condition, except that the teat upon the anterior wall, through which the stone had passed, was lessening in size.

I passed a catheter into the bladder, in which careful explora-

tion failed to reveal the presence of any concretion. An attempt was then made, with the finger in the vagina to establish communication, through the teat, with the catheter in the bladder. No success attended this endeavor.

I purposely refrained from having a chemical analysis made, before presenting the calculus for inspection to the members of the Orleans Parish Medical Society, which I did at the meeting held on the 27th May, 1878, on which occasion I reported the case orally. It was then decided to commission me to submit a written report, which would form a subject for discussion at the next regular meeting of the society.

This paper is the desired written report, which I supplement with a statement of the results furnished by a chemical analysis of the product, kindly made in my presence, in his laboratory, by Professor Joseph Jones, to whose courtesy and valuable assistance I wish publicly to render thanks.

The remaining history of the case, to date, may be briefly summed up as follows: May 31st; the patient has had fever and pain in the lower part of the abdomen since yesterday. Green matter vomited to-day. Bowels loose. The os still presents the same wiry condition: the uterus is hard and heavy, the vaginal nodes are less marked. The lady's garments show pinkish stains.

June 3d: Fever; vomiting of grassy green matter continues.

June 5th: This morning, whilst urinating, there occurred a sudden gush of blood referred to the vagina.

June 7th: Grassy green matter vomited again. No repetition of the hemorrhage. Vaginal exploration reveals two small liquid cysts on the anterior lip of the os. The nodules have almost entirely disappeared, and the anterior elevation, through which the calculus escaped, has completely subsided, leaving no perceptible induration. On the posterior vaginal wall there exists a hard band, conveying the impression of cicatricial tissue, which runs up to and is finally lost within the cervical cavity. The uterus is anteverted and the os directed towards the concavity of the sacrum. The mouth of the womb is puckered. The cavity of the cervix appears to have become

smaller. It is certainly less fungous. There is no odor, and the finger is withdrawn without any traces of blood. The edges of the os have still the same sharp feel, and the inferior segment of the uterus is perceptibly indurated. The abdomen is tender at night, but there are no lancinating pains. Mrs. S., generally rests well under the influence of an opiate. She is feeble and complains of want of appetite.

June 18th: Fever for three days past: pain in region of spleen and lower part of abdomen, spleen not enlarged. Pinkish stains upon garments: little or no appetite, nausea. Examination by speculum reveals an ulceration of about the size of a pea, on the anterior lip and extending into the cavity of the cervix. The os is softer and more oedematous, and the cervical cavity seems smaller and smoother. From the ulceration on the anterior lip, a thin stream of blood flows down into the vagina. The uterus is anteverted. The sound passes readily to a depth of at least three inches. The vaginal nodes have all disappeared, but the posterior cicatricial band, already described, is still to be felt. The sound, on being withdrawn from the cavity of the uterus, was noticed to be covered with a sanious liquid. The vagina contains a mucous, viscid secretion. The removal of the speculum is followed by the appearance of a citrine fluid at the vulva.

## REMARKS.

Although this case, in its original features, presents a good field for a differential diagnosis between uterine cancer and destructive lesions, which may have been produced by a midwife, and although the discussion of these points is interesting, yet my intention is to pass by, unnoticed, this aspect of the history related in the preceding pages, in order to take up the study of the strange body, whose unexpected appearance excites a more absorbing curiosity, as a matter of scientific rarity.

A stone is observed to make its way through the vaginal wall into the vagina, coming apparently from the bladder.

Whence did it originate?

Three suppositions might be entertained.

First: this stone is an ordinary vesical calculus.

Second: it is due to some foreign substance introduced for various purposes. Let me say at once, for the sake of brevity, that the facts in this case allow no room for entertaining this second supposition, which may therefore be dropped from further consideration.

Third: the production under examination has originated in a cyst of the vaginal wall.

To return then to the idea first enumerated. The thought would naturally arise, that the calculus had worked its way from the bladder to the vagina.

Here are the reasons, for which this supposition must be laid aside, as untenable.

It will be remembered, that no gouty antecedents were discovered in the family history of Mrs. S. Of course, it will be understood, that, for obvious reasons, very little stress is laid upon this absence of any known hereditary influence.

Stronger negative grounds can be brought forward.

It will be remembered too, that with the finger in the vagina and the catheter in the bladder, no communication between these parts could be detected.

There has never been any flow or dribbling of urine through the vagina. This of itself is a very strong argument.

T. Gaillard Thomas says (1) at page 154: "An involuntary "flow of urine usually announces the existence of a fistula "within three or four days after delivery, though when it is "the result of injury inflicted by instruments employed in "delivery, it may occur immediately. On the other hand, "the separation of the slough......may not take take place "until much later....."

He then relates instances in which the sypmtoms of fistula were not manifested until after a month, on the twenty-second day, after twenty-nine days, and on the twenty-first day.

In the case now being considered, the longest of these limiting periods has been exceeded, and the urine has never passed, except through its natural channel.

In Fleetwood Churchill's Practical Treatise of the Diseases of

<sup>(1)</sup> Thomas on the Diseases of Women.

Women (2), I find the following at page 881, which I render into English, from the French translation of Wieland and Dubrisay, not possessing a copy of Churchill's work in the original "English: "The signs of vesical fistulæ are not numerous, for besides the physical signs of the lesion, the only rational symptom consists in the flowing of urine, not through the urethra, but through the vagina."

It is not deemed necessary to adduce additional authorities upon this point.

Finally, the analysis of the stone enables me to state positively that it did not come from the bladder.

The calculus was analyzed in my presence by Professor Joseph Jones on the 6th June.

It was very hard in its central parts, and considerable time was required to saw through its mass.

Prof. Jones kindly wrote me a letter, of which I give a copy, detailing the results of the analysis.

"MEDICAL DEPARTMENT UNIVERSITY OF LA., June 6th, 1878.

## THOMAS LAYTON, D. M. P.

"Dear Sir—In reply to your request, I have made a section and chemical analysis of the small calculus which you extract ed from the anterior vaginal wall of Mrs. S., now under your care. The calculus has a central nucleus with surrounding rings. The central portion is firm, cutting with difficulty by means of the metacarpal saw.

"Chemical examination: soluble in nitric acid; ammonia "throws down small flocculent deposits of magnesian phosphate. "Molybdate of ammonia, heavy yellow deposit showing presence "of phosphoric acid. Solution of acetate of soda in acetic acid "with perchloride of iron, heavy deposit of phosphate of iron. "Oxalate of ammonia, heavy deposit of oxalate of lime.

"Tests for uric acid with nitric acid and ammonia gave no "reaction characteristic of uric acid. No murexide present.

"All the tests as well as the appearance of the calculus and its physical properties indicate that it is nothing more nor less

<sup>(3)</sup> Traité Pratique des maladics des femmes par Fleetwood Churchill. Traduction de Wieland et Dubrisay; Paris, 1866.

"than the phosphate of lime. In my opinion, it is analogous "to prostatic and salivary calculi.

"Respectfully,

"Your obedient servent,

. "(Signed)

JOSEPH JONES, M. D.

"Professor Chemistry and Clinical Medicine."

I take pleasure in showing you three different specimens of the calculus.

The powder is the remainder of the dust obtained by sawing through the stone.

A part of this powder was employed by Dr. Jones in making the chemical analysis detailed above, because it was considered, that this dust, obtained by sawing through the calculus, represented a fair average of its composition.

A portion of the calculus has been preserved in its original condition, as obtained by me from Mrs. S.

Owing to the hardness of the centre and its disposition in concentric layers, I took this third specimen to Messrs. Griswold & Co., who had the courtesy to have it polished, with the result, which is submitted for your inspection to-night. The polished portion of the calculus represents an irregular, truncated, six sided pyramid. Examined with a magnifying glass, a regular mosaic is revealed, the mass being formed of a number of stones of different sizes, closely grouped together, and firmly imbedded in a kind of mortar or cement, which infiltrates itself into all the chinks and interstices between the small stones, and is composed of the same external layer of whiteish hue already described as giving the calculus its generally regular ovoid shape. Examined isolatedly with the glass, each of these smaller stones is found to offer one or more nuclei encircled by concentric wavy strata similar to the rings in the trunk of a tree. Under the glass too, these smaller stones very much resemble the thin horizontal sections of grape vine stems, which are prepared as specimens for the microscope.

Viewed by the base of the pyramid, the polished portion of the calculus appears to be formed by a number of vertical bundles wedged together and held fast by the ubiquitous cement which has been described. An idea of the disposition of these calculous bundles may be conveyed, by saying that the manner in which they are grouped together is not unlike the appearance of bundles of muscular fibre seen under the microscope.

A decision having thefore been reached, that this stone did not come from the bladder, the process of elimination or exclusion, adopted at the beginning of this study, leaves but one gate open, viz: "the production under examination has "originated in a cyst of the vaginal wall."

Let me say at once, that careful research into the special literature of the subject developed but meagre results. No where, among the—it is true—relatively speaking limited facilities at my disposal, have I been able to find any mention made of a calcareous production obtained from a cyst of the vagina, which appears itself to be of rare occurrence.

True, Van Swieten, in his Commentaries, has at page 183, Vol. V, a chapter on "Calculus," (3) in which he says (translation mine). "There is scarcely any part of the body, as will "appear from the following pages, in which a calculus has not "sometimes been found: whence it appears, that the material, "from which the calculus grows, is present in the whole body, "or at least, that it is conveyed throughout the entire body."

In the same volume, lower down, we find the following, at page 193. (4) "The engendering of a calculus is successive, "not taking place all at once, as Helmontius claimed, who "believed, that, in one instant, a calculus, and a large one "too, might be formed by a certain petrifying spirit pervading "the whole system, which might produce the same effect, as that "which has furnished the poets with the fable of Medusa's "head."

Still further on, in the same volume, at page 203, Van

<sup>&</sup>quot;(3) Gerardi Van Swieten. Med. Doct. Commentaria in Hermanni Boerhaave aphorismos
"&c. Parisiis MDCCLXXIII. "vix ullus, ut patebit in sequentibus, locus corporis est.
"ubi non fuit inventus aliquando calculus: unde videtur materia, ex qua calculus
concrescit in toto corpore adesse, vel saltem per totum corpus deferri." Tomus Quintus.
p. 183.

<sup>(4) &</sup>quot;Ibid: p 193. "Successiva ergo est calculi generatio non momentanea uti Helmon"tius voluit, qui credebat, uno momento calculum, ac magnum quidem, formari posse a "spiritu quodam petrifico pervadente omnia, quique cumdem effectum produceret, ac d e "Medace capite Poetæ fabulati sunt."

Swieten relates that Hippocrates mentions a stone, which was expelled from the uterine cavity of a woman sixty years of age.

He also states that Louis had collected the histories of several cases of uterine calculi.

It would seem as though Louis was rather sceptical concerning Hippocrates' story, told in brief above, and whilst not venturing to openly impugn that hoary and venerable authority, still he, with a certain degree of timidity, doubtless consequent upon a sense of his audacity, undertakes to hint that the stone in question may have come from the bladder and not from the womb.

Van Swieten however, shocked at the temerity displayed by doubting any assertion made by the Father of Medicine, clings to the Hippocratic version, because, as he gravely asserts. Louis does not seem to have based his opinion upon very substantial arguments, and with this dignifiedly withering rebuke, unlucky Louis' dissenting interpretation is dismissed as unworthy of further consideration.

Next in order, the great commentator quotes a case communicated by the "very celebrated Gaubius" to a society at Haarlem in Holland, in which a virgin, aged twenty-eight years, suffering from falling of the womb, passed a large number of uterine calculi in the space of a few years. These calculi, according to Gaubius, were like chalk.

Van Swieten then alludes to calculi found in the uterine annexes, and concludes by saying, at page 204 (5): "I believe "that these instances are evidently sufficient to demonstrate "that scarcely any spot can be found in the human body, in "which a calculus has not sometimes been discovered. I "might easily enumerate additional facts: (for Medical History "abounds in such). Stones, forsooth, have been found in the "mouth, the tongue, the nostrils, the ears, the liver, the spleen "&c., but lest I should dilate too lengthily upon all these, it "will suffice to have pointed them out summarily."

<sup>(5)</sup> Ibid, p. 204. "Haec puto sufficere, ut constet, vix loca in corpore humano reperiti, "in quibus non fuerit aliquando inventus calculus. Plura facilé recensere potuissem: "(Historia enim Medica in his dives est.) Fuerunt enim calculi inventi in ore, lingua, auribus, hepate, liene, etc., sed ne nimis in his longus sim, summatim haec monuisse "sufficiet."

The existence of vaginal cysts being admitted, perhaps on account of self-evident analogy, it may be useful to recall an observation of Sir Astley Cooper (6) who says that he once saw an atheromatous or melicerous cyst which had undergone ossification.

Dr. A. B. Miles, Assistant House Surgeon of the Charity Hospital in this city, has kindly taken an interest in the history of the case presented to you this evening, and he informs me that at page 170 of Green's Pathological and Morbid Anatomy, under the head of secondary changes in cysts, it is said that: "calcification and ossification of the wall may also occur...." Calcification of the contents is also common."

Dr. Miles also called my attention to the fact, that in Gross, System of Surgery, Vol. II, p. 947, an account of vaginal cysts is given. The contents were liquid however.

Dr. Miles, to whom I am indebted for the foregoing authorities, also undertook to examine a file of the Transactions of the London Obstetrical Society.

He mentions finding in Vol. IX for 1867, the history of a cyst of the anterior vaginal wall, with fluid contents. The case was reported by J. Hall Davis, M.D., F.R.C.P. Dr. Davis states that on two occasions Dr. West met with vaginal cysts containing fluid, and that Scanzoni also opened a vaginal cyst, whose contents were liquid.

It is needless, for present purposes, to call attention to the fact, that all the books allude to Nabothian cysts and to those of Bartholin's glands.

The fact that purely vaginal cysts are uncommon is patent from the number of authors, who, in their writings omit even mentioning the existence of such tumors. For instance, neither Marion Sims nor T. Gaillard Thomas appears to consider the matter worthy of the slightest attention.

Some of the medical dictionaries also, such as Nysten and Dunglison, do not devote a passing allusion to the subject.

Broca in his "Traité des Tumeurs," (7) Vol. II, p. 115,

<sup>(6)</sup> Œuvres Chirurgicales complètes de Sir Astley Cooper. Traduction de Chassaignac et Richelot. Paris, 1837, page 590. A copy of the English edition is not in my possession.

<sup>(7)</sup> Traité des Tumeurs par Paul Broca, Paris, 1869.

speaking of cysts formed around inert and solid bodies, says (translation mine): "Such cysts may be compared to those "which sometimes surround certain concretions formed in the "tissues, and due to the deposit of non-organized matter (cre-"taceous tubercles, stony concretions, etc). Besides, as these concretions are always deposited very slowly, they are very often deprived of a cystic envelope, and they are directly in "contact, or even in continuity with the surrounding tissues; "whence arose the ancient idea, that they were due to the petrifaction of such tissues."

In a number of works upon obstetrics, we read of cysts of the vagina which impeded labor. All the accounts of such cysts, which I have had occasion to examine, refer to tumors, whose contents were fluid.

Churchill (8), in his treatise of the diseases of women, already quoted, writes as follows, page 141: "Encysted tumors "of the vagina. I have never met, in the books, with any "description of this disease. I do not believe it to be very "common. I will therefore be the more excusable in giving "details here concerning the four cases which I have seen." All four were cysts with fluid contents.

In Graily Hewitt's work (9) on the "Diseases of Women," at page 192, I find the following: "Dr. West relates a case, "in which a cyst of the vagina, the size of an egg, projected "from between the vulva, and had just the appearance pre"sented by a prolapsed bladder. By the use of the catheter, how"ever, the nature of the tumour was made evident." Lower down, at page 194, Graily Hewitt remarks that: "These cysts "(vaginal) are not common; they could hardly be confounded "with any thing else..... they probably consist of enlarge"ments of the mucous follicles. It is more difficult, however, "to distinguish the next series of cases,—those in which a "hard fibrous tumour of the vagina is found growing external "to the canal, but projecting partly into it—from some other "conditions. Occasionally fibrous tumours, resembling the

<sup>(8)</sup> Traité pratique des maladies des femmes, par Fleetwood Churchill. Traduit par Wieland et Dubrisay, Paris, 1866.

<sup>(9)</sup> The Diagnosis and Treatment of Diseases of Women, by Graily Hewitt, M.D. Lond. M. R. C. P. London, 1863.

"fibrous tumours of the uterus, grow in the vaginal wall, 
originating primarily in the uterus according to Kiwisch, 
but sometimes also primarily in the vaginal wall itself, according to Scanzoni."

In a short paragraph, at page 1036, entitled: "Kystes et Polypes du Vagin," (10) Professor Courty of Montpellier, writes the following, which I translate: "Cysts are only exception-"ally observed in the vagina. Those of the superior and "inferior parts are furnished by the uterus and the vulva," and offer the appearance of follicular cysts. Those of the "middle region, or of the vagina properly speaking are due to "the development of serous bursæ, or to the formation of cysts," whose primitive location is in the peri-vaginal cellular tissue (Rokitansky), and whose development gradually, although often very slowly, causes the cyst to project into the vagina, "that is to say, towards the point were the least obstacle is offered to the growth of the tumor. Incision of the cyst, evacuation of its serous contents and cauterization of "its cavity are sufficient to obtain a cure."

Nelaton, in his Surgical Pathology (11), Vol. V, page 823, treating of deep follicular cysts of the vagina, writes as follows (translation mine): "They are observed in the upper half of "the vagina and in the neighborhood of the cervix uteri; they "generally occupy the anterior wall of the vulvo-uterine canal. "Two cysts of this kind are seldom found in the same patient; ".....The matter contained in these pouches is viscous, "ropy and reminds one of mucilage....."

The most satisfactory contribution to the literature of vaginal cysts, I have met with, is to be found in the report of a case related to the New York Obstetrical Society, by Dr. Paul F. Mundé, editor of the "American Journal of Obstetrics." The history of Dr. Mundé's case is published in the American Journal of Obstetrics for October, 1877. (12) The patient, a

<sup>(10)</sup> Traité pratique des maladies de l'utérus et de ses annexes, par A. Courty, Paris 1866

<sup>(11)</sup> Eléments de Pathologie Chirurgicale, par A. Nélaton, Paris, 1859.

<sup>(12)</sup> Transactions of the New York Obstetrical Society, in American Journal of Obstetics. October, 1877, p. 673, et seq.

Mrs. B. McD. had a cyst of the anterior wall of the vagina, with "clear glutinous contents." Dr. Mundé's report on this occasion is supplemented by the following interesting remarks which I transcribe: "The number of cysts of the vagina "reported in literature is by no means so great, that the "publication of a new case may be considered superfluous. "Up to the appearance in 1871 (Arch. für Gynäkologie, II) of a "paper on this subject by Winckel of Dresden, in which the "first full account of the literature, etiology, pathology and "treatment of these growths was given, only fifty cases of "true vaginal cyst had been reported, including four related "by Winckel in that paper. Since then only two papers have "appeared, one by Kaltenbach of Freiburg (Arch. f. Gyn., V., "1873), chiefly the report of a case, and the other by Von "Preuschen, (Centralbl., 40, 1874) who found glands in the "vagina, and attributes the cysts to the occlusion and dilata-"tion of these glands. (13).

"One case has also been reported (Am. Jour. Obst., Vol "IX, 1876) by the late Dr. Brainard Hunt of this city. "Doubtless other cases have been observed and reported, but "have escaped my notice in the superficial review I have been "able to give of the matter. T. Gaillard Thomas does not "mention the disease at all in the latest edition of his book, "and Shroeder devotes but two pages to its very imperfect "description. In view of this scarcity of literature, and the "comparative rarity of the affection, it may not seem inappro-"priate to refer briefly to the conclusions arrived at by Winckel. "He found that the cysts generally occur singly (in 82 per cent.), "more rarely two (12 per cent.), and still less frequently, three "cysts (4 per cent.), are found at a time. Kiwisch found five in "one case. As a rule, the cysts are located on the anterior "(19 cases), or posterior (14) wall, more rarely laterally (5). "On the anterior wall, the lower third and junction of middle "and upper third are the favorite seats; on the posterior wall "the lower and middle thirds. In two-thirds of the cases, the

<sup>(13)</sup> It may not be out of place here, to mention that Robin and Littré, in their 1th1 edition, p. 1484, denied the existence either of glands or of follicular orifices in the vaginal mucous membrane.

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"the cysts varied from that of a pea or nut (25.5 per cent.) to that of a hen's egg or pear, or larger (34.09 per cent.), the larger proportion being of medium size, pigeon's egg (40.4 per cent.). The contents of the cysts varied greatly, being reddish, brown, green, slimy, glutinous, albuminous, but generally of clear yellow color and serous consistency. An analysis shows albumen, salts and water, epithelia, granulated cells, fat globules, and, in those with colored contents, pigment and blood corpuscles.

"There are four varieties of vaginal cysts, differing in origin and constitution of their envelopes."

1st. "Simple follicular cysts, superficially located in the "mucous membrane, with a thin envelope, containing only "fibro-elastic tissue and lined by pavement epithelium.

2d. "Cysts caused by a dilatation of lobulated glands (found "by Henle in exceptional instances in the upper portion of the "vagina and the cervix) with thin walls, no endothelium, and "always small in size.

3d. "Cysts, whose walls consist of the mucous membrane, "and at least a portion of the fibro-muscular coat of the "vagina; these cysts have no special capsule, but are found "merely by a separation of the strata of the vaginal wall "by an effusion, and occur chiefly in the lower third of the "canal.......

4th. "Cysts in the perivaginal cellular tissue, with separate "walls and varied contents (cheesy, dermoid), (14) which grow down into the perivaginal space, and push the whole wall of "the canal before them.

"Briefly, these four varieties may be divided into three "groups; a, mucous cysts, arising from closed or open "follicles; b, interstitial cysts, located in the sub-mucous or "fibro-muscular layer; and c, the sub-serous situated above, "under the peritoneum; below, between rectum and vagina.

"Of the fifty cases, the majority come under class b, inter"stitial, about 66 per cent. being found below the middle of

<sup>(14)</sup> Italies mine. T. L.

"the vaginal canal, a portion, where even those authors who claim positively to have found glands in the vaginal mucosa, and admit their absence.

"The etiology of these cysts varies. That of the follicular "eyst is probably to be sought in chronic catarrh and inflamma-"tion of the vaginal mucous membrane, and in the physiologi-"cal hyperemia occurring during pregnancy. The interstitial "cysts probably arise in consequence of pressure, contusions "and extravasations during parturition. (15.) Still, of the "fifty cases collated, only eight were parous women, and two "were undoubted virgins, one being a newborn child. The "rarity of the cysts in the lateral portions of the vagina "certainly does not speak in favor of Veit's opinion, that "they originate in a persistance of the Wolffian bodies; or "possibly the lower ends of Müller's ducts may remain patent, "and occasionally be the starting point of vaginal cysts. "Strains and local injuries irrespective of childbirth are "recorded as causative agents in several cases, and Verneuil "believes in the occasional formation of bursæ mucosæ in the " recto-vaginal septum."

To the above record, I will add the following: A few years ago, I was invited by *Dr. Just Touatre*, of this city, to see a case of cyst of the posterior vaginal wall. The contents were liquid, and the tumor was so voluminous as nearly to obliterate the vagina.

Dr. Touatre informs me that he has since had another case of vaginal cystic tumor, occurring this time, on the anterior wall, about one inch above the vulva. The patient suffering pain, during intercourse, from this tumor which was somewhat larger than a walnut, consulted a druggist of her acquaintance.

On discovering the tumor, he proceeded to open it with a

<sup>(15)</sup> It seems to me that the calculus, whose history forms the subject of this paper, must have originated in an interstitial eyst, and it will be remembered, that Mrs. S. gave birth to nine children. It is true, her last child was born befere 1861, but this fact would not necessarily invalidate the hypothesis adopted, because the stone obtained from the vagina of Mrs. S. is evidently not of recent formation, and we have no means of determining any thing like the exact age of a production of this nature. It is therefore not irrational to suppose that the interstitial cyst, whence it came, may have had its origin in pressure sustained during parturition. The stone, once formed, may have lain dormant for years, until the recent cauterizations, described as having been made by the midwife, producing inflammatory action, may have proved the immediate cause of its expulsion.

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knife, making a free incision, and this operation was followed by the escape of a clear liquid. The druggist then cauterized the interior of the pouch with solid nitrate of silver. The liquid did not collect again, but the patient did not get well. The interior of the tumor became transformed into a pyogenic membrane, which suppurated freely, and coition became so painful, that the woman applied to Dr. Touatre for relief. The nature of the morbid condition having been ascertained, Doctors Touatre and Souchon dissected out the cystic sack, and the case made a speedy and permanent recovery.

Dr. Touatre has had the politeness to write me, that, in a medical work in his library, he has found reference made to a memoir by Huguier entitled: "Kystes sous muqueux du vagin." (16.) Unfortunately, neither Dr. Touatre nor I have been able to consult this memoir of Dr. Huguier. Still, as it dates back to 1847, it is hardly likely, that if it mentioned cases resembling that of Mrs. S., these would have been allowed to remain buried in oblivion during so many years.

The name of Dr. Huguier and the interest attaching to everything emanating from his authoritative pen suffice to render this supposition plausible, to say the least.

It will be remarked that an important difference exists between the vaginal cysts mentioned by the authorities, whose writings have been passed in review, in the preceding pages, and the case of Mrs. S.

Nowhere, in the literature of the subject, do we find even a hint thrown out of any vaginal cyst, whose contents were calculous, as in the instance I have the honor to report to-night.

True, Dr. Mundé, in the instructive article quoted above says that the contents of some cysts in the perivaginal cellular tissue are cheesy or dermoid, but he makes no mention of ever having heard of a calculous production in such conditions. It will be remembered that I have, in the course of this paper, quoted Sir Astley Cooper as saying that he had once seen an atheromatous or melicerous cyst, which had undergone ossification.

Bearing in mind, also, the extract from Green's Pathological

<sup>(16)</sup> Huguier: Kystes sous muqueux du vagin; in Mémoires de la Société de Chirurgie de Paris. Vol. I, in 9to, 1847, p.p. 396-394.

and Morbid Anatomy (to be found higher up), in which, under the head of secondary changes in cysts, the author says: Cal-" cification and ossification of the wall may also occur ...... " Calcification of the contents is also common" (17), it appears to me, that the following question may, without scientific impropriety, be asked: does it require a great stretch of the imagination to suppose that the stone obtained from the vaginal wall of Mrs. S., may represent the ossification or calcification of the cheesy or dermoid contents of a cyst corresponding to the description given above by Dr. Mundé?

I am indebted to the courtesy of my friend Dr. J. C. Carter, for the perusal of the article on "Cysts of the Vagina," which is to be found at page 506, Vol. X, of Von Ziemssen's Cyclopedia of the Practice of Medicine. This having been lately published (1875) may be supposed to convey all the information that is to be had, concerning the question under examination. The article is by Schreder, and strikes me as being the one alluded to by Dr. Mundé, in his report quoted above. It is based upon the following authorities: "Heming, Edinburgh " Medical Journal, January, 1831. Ladreit de la Charrière. "Archives Génér, 1858. Vol. I, p. 528. Saxinger-Spitalzeitung, "1863, No. 39. Veit, Frauenkrankheiten II. aufl. 1867, p. 544, "Winkel, Archiv. f. Gyn. B. II. p. 383-Kaltenbach-Archiv. f. Gyn., B. V., p. 138."

This paper throws no additional light upon the subject, and makes no mention of cysts, with calculous contents. As the main features of Schreder's contribution have been made use of by Dr. Mundé (quoted above) it is unnecessary to enter into details, in their regard.

The only thing which has fallen under my observation, presenting any resemblance to the case of Mrs. S., is to be found in a back number of the "Archives Générales de Médecine," in which I discovered a notice of a thesis by Dr. Bourdillat, published in Paris, by Victor Masson, and entitled:

"Calculs de l'urèthre et des regions circonvoisines chez "I'homme et chez la femme." (18.) The reviewer of this thesis says: "A special paragraph is devoted to those calculi, which, " as in man, may be developed in the neighborhood of the female "urethra, and in particular in the vagina.

<sup>(17)</sup> Italies mine. T. L. (18) Archives Générales de Mèdecine, Juin, 1870, p. 764, Paris.

Unfortunately the reviewer enters into no details, and owing to the impossibility, for the present at least, of procuring a copy of Dr. Bourdillat's thesis, I am unable to ascertain whether or not that gentleman describes any case or cases which may be comparable with that of Mrs. S.

If nothing of the kind is to be found either in Dr. Bourdillat's monograph, or in the memoir of Dr. Huguier, then gentlemen, as far as my reading goes. I believe that I now present for your inspection the first instance of a calculus obtained from a cyst of the vaginal wall, of which I am able to find a published record.

It is not probable that Van Swieten was acquainted with any similar case, else, he, with customary minuteness, would not have failed to transmit the same to posterity, but the stone exhibited to night affords another proof of the truth contained in his shrewd remark quoted above, and reproduced here, as the conclusion of this paper: "There is scarcely any part of "the body.....in which a calculus has not sometimes been found."

Note. Since the reading of the above paper, Prof. Logan has shown me a calculus extracted from the sub-lingual gland of an elderly lady.

The composition of this calculus is analogous to that of the one passed by Mrs. S., and furnishes a corroboration of the opinion expressed by Prof. Jones, in his letter, a copy of which is given above.

Dr. H. D. Schmidt, Pathologist of the Charity Hospital, has had the kindness to make a preliminary microscopical examination of the calculus presented by me to the Orleans Parish Medical Society, and he gives the following opinion as the result of such examination, reserving a more positive and detailed report, until such time, as a fine section of the stone can be made. Dr. Schmidt expresses himself as follows: "It

<sup>&</sup>quot; is supposed that the entire mass is the remains of a racemose "gland of the vagina, into the acini of which, the inorganic

<sup>&</sup>quot; matter was deposited. The specimen examined appears to consist of a number of laminated round bodies, each enclos-

<sup>&</sup>quot;ing a nucleus composed of small round elements, which seem "to be the remains of glandular epithelial cells."



Lister's Antiseptic Treatment of Wounds, in Wards 3 and 4½ of the Charity Hospital of New Orleans, during 1875, 1876, and 1877,

UNDER CHARGE OF

## M. SCHUPPERT, M. D.,

Professor in Operative Surgery and Orthopedics of the New Orleans Charity Hospital Medical College, and Visiting Surgeon to the Charity Hospital.

(Continued from July Number.)

Osteomyelitis of the left tibia. Partial resection of the bone with entire removal of the medulla. Cure.

If we have had in Ellis' case a multiple osteomyelitis, we have here a specimen of the circumscribed local form.\*

Leon Levy, 20 years old, a native of New Orleans, a pedler by occupation, gives the history of his ailment as follows:

"My parents are both living and healthy and so five brothers and sisters. To my recollection I have enjoyed good health during childhood; my mother told me, that when one year old, crawling on the floor one day, I had run a needle into my belly and the needle had never come out again to her knowledge. On the 11th of Nov. 1872 at 5, P. M., I got my feet wet, but kept shoes and stockings on till I came home at 9, P. M. Still I kept on well until Feb. 1873, 4 months later: during the night of Friday the 11th of Feb., I suffered an attack of chills and could not get warm, although I was covered heavily with blankets. On the following morning, when I intended to get out of bed. I could not walk well and had to use two sticks to approach the stove to warm myself; but although sitting near the fire-place I could not get warm. I went to bed again, with an attack of fever, perspired profusely and suffered a good many discharges from the bowels. My left leg also commenced to swell, from the knee joint down to the foot. On the following Sunday a doctor was called in, who ordered cold water dressings. These were continued till

<sup>\*</sup>In the terminology of the disease in question, there exists still a great deal of confusion. I use the term osteomyelitis to indicate the idiopathic inflammation of the bone and marrow.

the first of April, during two weeks, when a white mark appeared on the leg corresponding to where the sore is now. The doctor ordered flaxseed poultices and in the evening lanced the leg, from which a good deal of matter was discharged. One week later, on the 7th of April, he lanced the leg again, this time nearer to the kneejoint, when again matter mixed with whitish lumps came out. I had also contracted pneumonia (on the 1st of April, 1873) which lasted six weeks steady, and during that time the leg was painted with tinct. of iodine morning and night and bandaged. The places lanced kept discharging all the time till proud flesh commenced to grow out of them. A second doctor had been called in consultation and the two concluded now, to perform an operation, yet they postponed it for the present, on account of my weakness. Nothing was further done at that time. At the place where the ulcer is now located, (below the tuberosity of the tibia), I experienced a dall throbbing pain and often I had the sensation in the bone, as if a saw was at work. On the first of May I was able to sit up in a chair. I had improved so much, that on the 15th the operation could be undertaken. My father told me, that after I had come under the influence of chloroform, an incision had been made through the skin, and the bone had been scraped off to some extent. On the 1st of June I commenced to walk on crutches and one month later I went to Grand Isle, to have the benefit of sea-bathing. I forgot to say, that the operation had not had the desired effect of removing the pains of which I complained in the bone. Whilst I was at Grand Isle (a bathing place on the gulf) I took a bath morning and night. There I remained until the 1st of September, when I went back to the city. I had to use a stick for support. On the 1st of November I tried to go into employment in a dry goods store, but with the 1st of January, 1874. I had to quit working again, since I could not stand it, it being too hard for During all the time I had dressed the leg with goose grease. I remained at home till the 1st of August, 1874. Occasionally the leg would swell, so that I could not walk and was kept in bed for a few days, using again cold water dressings. On the 7th of July, a second operation was made on the

leg, at the old place, consisting in again scraping off some of the bone. On the 1st of August I left home for the lake shore, where I remained till the 1st of September. There I got a little stronger, and could give up the support of sticks. Occasionally since I had that attack of pneumonia, the knee joint would swell for two or three days. I had constantly taken cod liver oil, acting upon the advice of the doctor. About three months ago I had to stay in bed again for three weeks, suffering from what was thought to be an attack of rheumatism in the leg. I could hardly move; I began to wear flannel and my suffering temporarily was less severe."

Status prasens. At the present time the left leg will occasionally swell in the evening, the swelling disappearing again in the morning. The whole tibia of the left leg is enlarged, whilst at the lower third the circumference of the right and healthy leg measures 10.6"; the diseased one has 13". The circumference at the calf of the healthy leg is 11"; of the diseased one 13.5"; at the upper third the healthy one 7.6"; the diseased 8.5". The difference in these measurements is mainly caused by the increase of the tibia. At the upper third of the tibia, 2" below the tuberosity is to be seen a discharging deep ulcer measuring in length 4" in width 2.5". Below this ulcer is seen a large discolored place, where the abscess has been previously located. The present ulcer presents a corroding appearance and a silver probe can be pushed into the spongy bone causing some bleeding.

The patient, tired of the length of his suffering, the repeated swellings extending nearly to the knee joint, of the long standing suppuration, necessary dressings, and of being kept idle, finally resolved to consult me, adverse as he had been all the time to such a step, in being told, that he would certainly have to lose his limb.\*

<sup>\*</sup>A scarecrow, I am sorry to say, I have had often, during my long practice in this city, to contend with, it being used by laymen as well as envious colleagues and such foremost who have need of fearing an unbiassed scrutiny and criticism of the mistakes which they have committed. So came here to light evidently a great deal of ignorance, committed in the treatment of the poor sufferer. What good on earth could the scraping of the bone do to relieve the pain of the patient where all indications pointed to an inflammatory disease of the interior of the bone. Of all practitioners,

He accepted therefore with eagerness the proposition of trephining the bone, the more so since I could assure him, that not only would his limb be preserved but that he would thereby stand a chance of being radically cured.

Operation. On the 26th of April, 1877, at noon, accompanied by Dr. Salomon and my son Charles, then a resident student of the Charity Hospital, I entered the habitation of Levy. After a full statement of the case, a repeated examination and an understanding of what I intended to do, Levy underwent narcotization with chloroform. Esmarch's constrictor, previously disinfected, was applied. The leg was cleansed with soap and warm water and washed once more with 3 per cent., carbolic water. The bistoury was then taken out of a basin, wherein all the instruments and utensils to be used in the operation. had been submerged during 1 of an hour in carbolic water of the same strength, and after the hands of the operator and assistants had been well disinfected. Under the action of two sprays an incision was then made over the whole length of the tibia, beginning at the tuberosity and ending near the internal malleolus. The cut fell in the midst of the broad plane of the enlarged bone, dividing all the integuments, the periosteum included. The integuments were dissected off on both sides of the incision and the periosteum also pushed back, using a proper elevator for the purpose. The bone was so denuded to the extent of 17 inches in length. The integuments were held back with blunt books and the trepan applied on 5 different places, at nearly equal distances from each other, and driven into the bone until the instrument had perforated the upper thick wall of the bone and had arrived in the medullary channel. The bridges hereby left standing were now cut through with the chisel. The whole length of the channel was so laid bare, not a drop of blood so far had been lost from the integuments; merely some oozing of a dark blood took

and I can say this with pride and truth. I will be one of the last to amputate as long as a chance exists of preserving a limb, which under circumstances may be only practicable under the proper use of Lister's antiseptic method, of which in its pedantic application I have hardly a rival in this city. I repeat this without fear of a contradiction and am ready to prove it anywhere and at any time!

place from the thickened walls of the bone. The spots where the trepan had entered the marrow were, after its retraction, filled with a protruding dark red colored hyperaemic substance. It seemed as if the cavity had been too small for it. 5 contents. The medulla of the opened channel had lost its characteristic toughness and elasticity; it was rather a thin soft discolored mass, containing a considerable quantity of oil globules and pus. The whole contents of the channel were scooped out with the use of a sharp spoon.\*

This scooping out of the channel extended from near the malleolus up to the cancellous portion of the epiphysis. After this had been accomplished under the constant action of the sprays, the tourniquet was removed. Not quite 10 seconds afterwards an inundation of blood took place, the blood coming out of all parts of the divided integuments as well as of the bone. Three small arteries had to be ligated. The blood so lost was considerable, the more so since the sprays and irrigation prevented the blood from coagulating and by removing the collecting blood kept open the mouths of the bleeding vessels. Still, the bleeding was finally arrested by stopping irrigation and by reducing the action of the sprays. Having ceased irrigation after all particles of loose bone had been removed and after the leg had been cleaned, the periosteum was pushed forward to cover the cut bone and the edges of the divided integuments approximated to each other and united by sutures. The carity of the channel remained filled with blood, still protected, until the wound was covered, by one acting spray. At both ends of the wound a small silver drainage tube was inserted and the whole wound covered with protective and Lister's antiseptic gauze compressess and after the dressing had once more been protected with an india-rubber plate, surrounding the entire limb, a flannel roller was finally applied.

<sup>&</sup>quot;This instrument is best described in comparing it with the half of a large round rifle ball, excavated and its end sharpened; this spoon-like instrument is fastened to a stem and handle. Simon, the late surgeon of Heidelberg, has first illustrated this instrument so constructed, and recommended it for the removal of cancerous tumors from the interior of the uterus. It is an excellent instrument, which should not be wanting in a surgeon's armamentarium. I have also used it for a number of years with great benefit in scooping out buboes.

The extremity, after the patient had been removed from the operating table and transported to bed, was laid upon a pillow in order to occupy a higher position than the rest of the body. When the patient awoke he expressed his satisfaction in not having felt any pain from the operation and remaining still free from it, which had been partially accomplished by 1 gr. of morphine injected intermuscularly after the dressing had been finished. Patient felt some nausea but did not vomit. With a great deal of anxiety I looked upon the final result of this operation. The fear was, that parts at least of such an extensive portion of the tibia being deprived partially of its external periosteum, with the total removal of the whole medulla and its internal lining membrane, the endosteum, might become necrosed. The hope which I nevertheless entertained for the preservation of its larger portion at least, rested upon the numerous blood-vessels I saw occupying and penetrating the bone in all directions and which unquestionably had also played an important role in the production of the hypertrophy of the bone. The eventual result corroborated these my views; not a particle of bone became necrosed; on the contrary, there is at present May, 1878, an evident hyperostosis of the bone observable. On the following day when the bandages were removed under spray of 3 per cent. carbolic water and another antiseptic dressing applied, the cavity of the channel excavated so thoroughly on the previous day was still totally filled with coagulated blood of a bright red color. The redressing was executed in the shortest space of time, without touching this blood, not to say removing it, as many would probably have expected. This preservation of the blood is one of the important points, with which Volkman, if I am not mistaken, enriched Lister's method. This blood under a properly applied antiseptic dressing becomes organized without the formation of a single drop of pus. The sutures were removed, the ligatures came away and the drains were removed at the proper time. The extensive wound healed rapidly, having discharged but small quantities of a thin serous liquid. The longest time in the closing process was afforded by the cicatrization on account of the loss of skin during the previous ulcerating period. The number of antiseptic

dressings employed here cannot come into consideration on account of the extraordinary extension of the wound and the over-scrupulous care taken, of preventing any untoward accident.

Levy, since his wound has healed, has never had any complaint over his leg, with the exception of an occasional eruption of small furuncles. The bone had attained its former hypertrophic condition, and is about \{ \frac{1}{3}} larger than its companion of the other extremity; the young man can walk and exercise a whole day upon his feet, without feeling tired.

Epicrisis. The professional mistakes committed in the early treatment of this case have already been mentioned.

How much of suffering, of time and of expense the patient might have been spared, if the nature of the disease had been recognized at the proper time, unquestionably as it ought to have been, is obvious. The state and condition of the diseased leg at the time that I saw it first and became acquainted with its previous history, left hardly a doubt with me, that here I had to deal with the sequelae of one of those deep-seated affections of bone, to which the appellation of osteomyelitis has been applied. The considerable increase of size of the bone and the probable formation of a medullary abscess certainly afforded a more energetic action than a scraping of the bony surface.

It is known how difficult often it is to reveal the proper causation of this disease and how unfounded and questionable the origin, to which it is attributed. To whatever near or remote cause the present affection of the tibia might be traced, in the absence of all other specified sources, and in view of the relationship which is known to exist between suppurating joints or bones and the lungs, I am inclined to trace the disease of the subject under discussion to the preceding pneumonia, and in regard to the treatment so much is evident, that the trepan was the only proper instrument indicated and the sooner this would have been done, the better the patient would have fared. Notwithstanding the greater resisting and recuperative power of younger subjects, the danger in waiting to apply the proper remedies here is not less great of the

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formation of a miliary tuberculosis or of turning into a hectic condition.

Among the characteristics of such medullary abscesses are the obstinate ulcers located over the bone, which will occasionally heal to a certain extent, to break out again even at different parts! The edges of these ulcers are often callous. The bone may become partially enlarged and soft, so that a metallic probe can easily be pushed into it. Though the tumified bone becomes spongy, (osteoporosis) cases may happen where the bone to a great extent seems yet to be healthy and hard (osteosclerosis) as in the present case. Even though the medullary substance may appear healthy and firm to the touch, it affords a close observation to perceive the purulent matter issuing from beneath the sawed edges of the bone. The pain is also characteristic, not increasing under pressure, the sufferer cannot entrust the weight of his body to his lower extremities and a typhoid or a hectic condition sometimes supervenes. The tibia is mostly the seat of this affection, though it may also happen on other bones, as on the femur, humerus, and I have observed it also on the ilium and scapula.

"When the shafts of the long bones," says N. Smith, "are the seat of the disease, at the same time that matter is deposited beneath the external periosteum, there is formed a corresponding collection between the internal surface of the bone and the membrane surrounding the medullary surface, so that there exists two collections of matter, bathing the opposite sides of walls of the bone. This fact I deem of great importance, as being essential to the correct treatment of the disease—the trephining of the bone. The medullary substance itself is not affected nor penetrated by the matter." Herein Smith commits an error, if he claims for the medullary substance such an exclusiveness. In two of the cases upon which I operated I found the medullary substance equally affected, and having lost its toughness, being rather soft, decomposed and containing a great deal of pus,

"When the disease" Smith continues "has arrived at that period at which the matter accumulated beneath the periosteum,

has made its way to the surface and that contained within the cavity of the bone has issued through a fissure or one or the other enlarged Haversian channels, relieving thereby the parts from the irritation caused by pressure or distention, the sympathetic fever in a great measure ceases."

In the face of these statistical facts does it not seem strange when we find in the published "lectures on the progress of Anatomy and Surgery during the present century," delivered by the late Sir William Ferguson, an entire ignorance of these important documents? Seeing Ferguson asserting "as the common sentiment of the profession" that the claims to this operation (trephining) belonged to Sir Benj. Brodie(!). This statement is made in the following words: (vide Lancet, June, 1864.)

"The memorable instance in which Sir Benj. Brodie amputated a leg for incurable pain in the tibia, is one of the beacon lights of surgery never to be forgotten. It was, if I mistake not, the model case on which all our modern ideas about abscess of bone are founded and the pathological examination of that limb led to a line of practice of inestimable value, which, even at the present day, is, I imagine, scarcely appreciated at its full worth. The example has been followed again and again, with great advantage, and I repeat, that I know not even now, a better illustration of conservatism in the whole range of practical surgery. The operation of trepanning was scarcely known when I began the profession and I confess that it was not until I had been many years in practice that I appreciated its value and, in particular, saw to what it was in a manner the key."

Words to pronounce which, it affords in a high degree all the arrogance of ignorance of surgical history. The writings of Alex. Monro, P. A. in an essay on the "Caries of Bones," published in the medical essays and observations, edit. Edinburgh, 1742, could have taught Sir Brodie and his panegyrical interpreter a better method than an amputation, yet, what are we to say if we find even one of the predecessors of Sir Brodie of the same hospital, Wm. Bloomfield, to have published in the Chirurgical Observations, London, 1773, the proper

treatment of an abscess in the medulla. This excellent surgeon says here, in the 2nd volume on the diseases of the bones, "whenever, then, a patient complains of a dull heavy pain, deeply situated in the bone, possibly consequent to a violent blow received on the part some time before, and though, at the time the patient complains of this uneasiness within the bone, the integuments shall appear perfectly sound, and the bone itself not in the least injured, we have great reason to suspect an abscess in the medulla.....and from his dislike to amputate, Bloomfield gives the advice to let the matter out of the bone, the sooner the better, if not of any considerable advantage in respect to the carious bone, though for the instant relief to the patient from the pain. And if that will not be sufficient to strip Sir B. Brodie of the laurels so grandiloquently offered by his confrere, Sir Ferguson, a glimpse at the practical observations in Surgery, 3d ed. London, 1814, pp. 26-37, will present an admirable sketch of the abscess of bone in which Mr. Hey, of Leeds, shows how he cured such a disease in the year 1787. Of course we cannot expect at that time that a proud English surgeon should have looked into the progress surgery had already made amongst his transatlantic liliputian brethren, otherwise he would have met with a publication issued three years before Sir Benj. Brodie committed that surgical blunder in the amputation of a limb for a medullary abscess which he might have saved by borrowing a chisel and hammer from a neighboring carpenter.

I have in view here the writings of Dr. Nathan R. Smith and his son, the distinguished Prof. of Surgery in the University of Maryland. In the Philadelphia Monthly Journal of Medicine, June–July, 1827, Smith gives the details of a case of a colored girl upon whom he operated in 1798 and which case established in his mind the pathology of the disease and the proper treatment by trepanning the bone; and besides Smith, Sir Brodie or his admirer Ferguson, could have made the acquaintance of another distinguished American surgeon Benj. B. Simons of South Carolina, who in the Carolina Journal of medicine, etc., in 1825, published seven cases trephined by him for abscess of bone.

It is hardly necessary to repeat here that "abscess of bone" though occasionally enumerated as a disease per se, is in the majority of cases one of the sequelæ of osteomyelitic processes, so far as the history of the cases published clear up the subject.

In general, osteomyelitis is one of those rare diseases, its descriptions filled with fragmentary observations insufficient for elucidating the comprehension, which is the more to be pitied, since only a continuous exact observation of the period of its invasion, etc., can help the understanding. Scarcely more than the general outlines of the disease are known. Some authors who have written on the subject deviate essentially in their views from others and principally in regard to its character, extent and cessation and to the multiple centres of inflammation and the primary infection of the blood.

Of late there has also been found in the pus of such abscesses *cocobacteria*, an instance, which promises probably to bring more light into some of the dark abysses of the disease.

Herewith I will dismiss for the present this interesting chapter.

Caries of left tibia of twenty-seven years standing—extensive ulceration of integuments—partial regeneration of bone—Osteosclerosis. Partial resection with entire removal of medulla.

J. M. Mullen, 36 years old, from Ireland, by occupation a hostler, when four years old suffered an ulcer on big toe and thinks that by maltreatment and undue bandaging, etc., his leg had afterwards begun to swell. An abscess formed in the course of time in which the bone became involved. The history of the origin of the disease is defective, on account of the early time it took place. So much may be relied upon that in 1851 Dr. W. of this city removed a dead portion of bone from the tibia, about two inches below the knee-joint. The ulcer healed but the leg "broke out" again. The leg was never for any length of time in a healthy condition. Occasionally pieces of bone came away.

Status presens. An extensive ulcer ten inches in length, five inches in width, beginning two inches below the tuberosity of the left tibia. comprised the anterior part of the much enlarged bone. At the upper part of this ulcer a finger could enter the interior of the bone, which, as far as denuded, presented a rugged appearance. Near that hole in the ulcerated integuments the pulsation of the anterior tibial artery could be observed. Repeated hemorrhages had of late alarmed the patient, who during twenty-seven years had daily dressed this extensive ulcer, occupying at the present time nearly two-thirds of the whole length of the leg, which is also about one and a half inches longer than the other.

Two of my colleagues who had seen the leg did not believe that the limb could be preserved and advised amputation, in which opinion they were supported by others at the time of the operation. Yet I had decided on resection, and since I had met with such a good result in Levy's case, I was the more resolved to execute it. Should I have adopted the method of Esmarch and others, who fill out the cavity of the bone after the removal of the marrow, with firesponge or tampons, I would have thought twice over it before undertaking so extensive a resection, as would be required in this case, but under the wonderful preservation of the blood, filling out the cavity of the bone, after the removal of its marrow, by the protective power of Lister's antiseptic dressing, I selected the operation of resection. The successful result has vindicated the resolution and to-day, June 1st, though the immense hole caused by the operation, is not entirely filled out by granulating substance, the patient would hardly exchange his limb with even the best artificial member.

On the 16th of March, at noon, M. Mullen, then an inmate of the Hotel Dieu, was narcotized with chloroform. Doctors Boyer, Castellanos, Salomon, Stone, my son William, as also the students of the Charity Hospital, Gabert and my son Charles were present and in part assisting in the operation.

The leg had been well washed with three per cent. carbolic acid water and as soon as patient was thoroughly narcotized, Esmarch's constricting bandage was applied. An incision was

now made beginning two inches below the tuberosity of the tibia, extending downwards to near the internal malleolus. Dissecting off the integuments on both sides of the incision. the bone was laid bare to half its circumference. The anterior portion of the bone was removed under Roser's three handed chiseling, Dr. Castellanos handling the wooden hammer, whilst I directed a large carpenter's chisel. About half of the whole circumference of the greatly hyperostosed and sclerotic bone was so removed. It was hard work, the bone as hard as ebony, and it took a considerable time to remove the extensive masses of bone and to excavate the bone to nearly two-third of its whole length. The remaining medulla (a great portion of it was already gone) was thoroughly scooped out with the sharp spoon. After the edges of the bone had been smoothed, the constricting bandage was removed. Though no blood had retarded the operation, as long as the constriction was on, the hemorrhage which succeeded its removal was fearful to behold. Most of the blood, escaping in streams, came from vessels perforating the bone. At least from two to three pints of blood were so lost. The electric current was here helpless, and had no influence in arresting the hemorrhage. The further loss of blood was finally arrested by closing the extensive wound with the antiseptic gauze, taking proper care that the excavated space remained filled with blood. During the operation an irrigator and two sprays had been in constant action. Lister's method had been followed up minutely herein as well as in the dressing.

At my visit at night I met patient, though free from fever, yet greatly prostrated and vomiting considerably from the effects of chloroform, and that nausea remained during two subsequent days. Otherwise no fever set in and the patient soon rallied again.

On the next morning the dressing, saturated with blood, was removed under spray, yet a great deal of blood filling up the immensly large cavity came away and appeared in an already decomposed condition; some of the internal surface of the bone remained nevertheless covered by blood of a healthy red appearance. The next dressing, on the 3d day, presented an additional access of blood having taken place which became organized. Granulations were soon observed to appear and three weeks after this extensive operation over half of the removed parts of the bone were already supplanted by healthy looking granulating tissue.

The external wall of the bone left standing as a thin shell, which I had feared would hardly remain alive, became necrosed and had to be removed six weeks later. Patient insisted on again taking chloroform, yet I deemed it not necessary to obtain a deep narcotization. This time he did not suffer from its effects. In the evening of the same day I met him smoking a cigar and feeling very comfortable. Caused by this necrotic bone, the otherwise abundantly secreted pus became offensive and the smell even took away patient's appetite. From the day of its removal, all odor ceased and a pus "bonum et laudabile" appeared. The dressing of late had been exchanged with warm poulticing of flaxseed, which were abandoned again after one week and the carbolic compresses renewed. Up to the present date, June first, these carbolic compresses have been continued nearly three months. No carbolism has taken place and the wound bleeding latety, at each daily dressing, from a superabundance of bloodvessels, has nearly closed.

In a few weeks cicatrization is expected and the patient will have saved his leg in exchange of four month's confinement.

Traumatic hyperostosis of the right tibia. Resection of the osseous tumor. Medullary cavity absent. Wound healing by first intention.\*

Kath. Gross, 10 years old, a native of this city, fell 2 years ago, striking her right shinbone against an iron rail of a street railroad track. Though there was even no abrasion of the cuticle of the leg still the bone began to grow and had attained a considerable size in the course of two years. The child having often complained of pain in the leg, and most so at change of weather, her parents became alarmed and requested my attention.

The length of the tibia from the epiphysis to the lower

<sup>\*</sup>These last three cases were treated outside of the hospital.

margin of the internal malleolus measured  $10\frac{1}{2}$  inches ( $26\frac{1}{4}$  ctm.). The circumference of the leg in its middle and over the highest point of the tumor measured 9'' ( $22\frac{1}{2}$  ctm.) one inch more than the same place of its partner. The swelling in length was  $4\frac{1}{2}$  inches, and transversally 2 inches. The temperature of the skin covering the tumor was not different from that of its partner. No discoloration of the skin present. Percussion of the tumor gave a dull sound as of a solid body, but caused no pain. The child had never been prevented from exercising on her feet.

An oral examination in reference to the nature and locality of the pain was unsatisfactory, on account of contradictions in repeated examinations of the child.

I had tried for some time the use of iod. potassæ internally and tinct. iod. and mercurial ointment externally, but without any benefit. I resolved therefore to remove the osseous tumor instrumentally.

On the 23d of May the child was narcotized with chloroform. After the leg had been well cleansed with a three per cent. solution of carbolic acid, Esmarch's apparatus was applied. An incision was then made over the bony tumor, beginning and ending one inch beyond the swelling. The integuments were dissected off on both sides including the periosteum, which latter was not considerably thickened. The trepan was applied at the upper part of the tumor. It went nearly through the whole thickness of the tibia without meeting with the medullary cavity. I chiseled away all of the tumor and made at the same time an artificial cavity into the bone to a depth, that I certainly should have met with the medullary channel, if such had been present; but it was absent. The bone was unusually hard and of uniform hardness and color, so that I became convinced, that whatever the cause of the osseous hypertrophy, an obliteration of the medullary cavity could not have happened. Though rare, yet it is known, that the medullary cavity of the long bones of the extremities may be wanting and be filled with a compact osseous substance, without that during life any such abnormity could have been traced to injuries, or causes producing an obliteration. If in the case under consideration the tumor could have been produced by an ostitis or periostitis I

will not try to decide. It is not impossible that in such individuals with a wanting medullary cavity the disposition to ossificatory processes may be greater than under ordinary circumstances, and that a small injury, as in the present case, may be sufficient to induce nature to additional deposits of osseous matter.

This case is furthermore interesting in proving the highly antiseptic efficacy of Lister's method, if properly applied. The blood, which had filled up the artificial cavity made, became organized. The wound closed by silk sutures, healed by first intention. Not a drop of pus had been seen. The temperature remained normal, no fever set in. Patient was discharged cured after the 6th dressing and on the 16th of June only a small cicatrix showed that an operation had been performed here.

Medico-legal Evidence relating to the detection of Human Blood, presenting the alterations characteristic of Malarial Fever, on the clothing of a man, accused of the murder of Narcisse Arrieux, December 27th, 1876, near Donaldsonville.

STATE OF LOUISIANA, PARISH OF ASCENSION, 4th JUDICIAL DISTRICT COURT,
STATE OF LOUISIANA VS. (No. 38.) WILSON CHILDERS ET ALS.

#### BY JOSEPH JONES, M. D.,

Professer of Chemistry and Clinical Medicine, Medical Department University of Louisiana, Visiting Physician Charity Hospital, New Orleans, etc.

The value of life and property in every country, depends not merely upon the number and character of its laws; but chiefly upon a learned and incorruptible judiciary, supported by an intelligent law-abiding and virtuous people.

The great ends of good government, the security of life, liberty, property, and the pursuit of happiness to all alike, irrespective of birth, condition or occupation, can be secured solely by the impartial administration of just laws and the certain and prompt punishment of their infraction.

Holding these views, the writer has upon various occasions in several Southern States, responded to the calls of outraged humanity and offended justice, and assumed the painful and responsible task of instituting those post-mortem examinations, and chemical and microscopical processes, which could best detect and reveal the modes and causes of death and thus aid justice by furnishing an important link of evidence.

Although during the past twenty years, I have been engaged in the investigation of over 50 cases of poisoning by various agents, as arsenious acid (arsenic), strychnia, morphia, opium and its preparations, lead and its salts, sulphate of iron, cyanide of potassium, the seeds of the Jamestown weed and other poisons, and although these medico-legal investigations have resulted in the conviction of a number of criminals; as the processes employed were similar to those practiced by experienced toxicologists; and as the facts as a general rule are well known and carefully recorded, I have refrained from burdening the current medical literature with the details. I am induced however to publish the following details under the belief that they will prove of interest to those who may conduct similar examinations, and also in two particulars to the medical profession generally.

The phenomena manifested by the deceased after the reception of the blows upon the head, as well as the detection of the peculiar effects of malarial fever upon the blood spattered on the clothing of the accused, and also upon the floor, walls and furniture of the room in which the murder was committed, appear to be worthy of record and consideration.

#### CIRCUMSTANCES OF THE MURDER.

Narcisse Arrieux, was found on the morning of December 28th, 1876, dead in his store situated on the banks of the Mississippi, near the south-western border of the town of Donaldsonville, Louisiana. The head, face, beard and clothing of the old man Narcisse Arrieux, were covered with clotted blood. It was evident from an extensive compound comminuted fracture of the cranium extending on the right side from the occiput across the right parietal bone and frontal bone to the internal canthus of the left eye, and from several other contused wounds on the head, that death had been caused by blows inflicted by heavy blunt instruments.

The small house occupied by Narcisse Arrieux, as a store and dwelling, contained three apartments. The largest apartment which faced the Mississippi River and opened by a door upon the common road or highway, leading up and down the road behind the broad levee, which protects this region from overflow, was used as a store for the sale and barter of various kinds of merchandise, food and spirits. This store was divided into two unequal portions by a counter running directly across in front of the door, the space behind the counter was much less in after than that in front. Back of the counter and communicating with the main room or store were too smaller rooms, one of which was used as a sleeping apartment, and the other as an office and sitting room.

According to the testimony of the coroner and other witnessess, the dead body of Narcisse Arrieux was found on the morning of the 28th of December, 1876, lying near the stove on an overturned chair in the small office. The doors communicating between the store and the sleeping room, and office and between this office and the sleeping room were open. The door opening from the street into the public road was shut and locked.

A pool of blood lay on the floor behind the counter, near a barrel of alcoholic spirits. Traces of blood were also found upon the floor of the store and marks of bloody hands were also upon the walls and upon the front door, and upon the floor of the office and sleeping room. Marks of bloody hands were found upon the walls and door posts and upon the bed. Blood was also found upon two desks and in the drawers, in which the deceased kept his money and books. Several four pound iron weights containing blood and the grey hairs of the deceased were found behind the counter, in the office and sleeping apartment. One of these heavy iron weights thrown at the head of the deceased had crashed through a window in the back part of the sleeping room and was picked up in the yard.

According to the statement of Dr. John E. Duffel, an intelligent and accomplished physician of Donaldsonville, who held the post-mortem at the coroner's inquest, the wounds observed upon the head of Narcisse Arrieux, were as follows:

"Left side: Contused wound about half inch in length near inner canthus of left eye. Contused wound one half inch in length, at root of nose on the left side, penetrating and fracturing the frontal bone. Great ecchymosis of both eyes. Contused wound over left eye, but extending diagonally towards the left temple, penetrating to the bone. Contused wound in left temple, in line with margin of left eye. Contused wound on posterior part of the head penetrating to the bone. Contused wound four inches from left ear, extending backwards towards occiput, two inches, fracturing and depressing the occipital bone.

Right side: Contused wound on forehead, penetrating to the bone, about three inches across the root of the nose. Contused wound about one inch to the left of the ear penetrating to the bone. Contused wound starting from the outer margin of the eyebrows, ranging downwards, towards the temporal bone, about three inches in length, ending in a line with the top of the right ear, penetrating, fracturing and depressing the right temporal bone.

Scalp removed: Extensive fracture, extending from the inner canthus of left eye, extending upwards in a curve and ranging across the right side of the frontal bone, and around across the temporal and parietal bones to the occiput."

It appears from the condition of the premises at the time of the inquest, that notwithstanding the extensive wounds and fractures of the cranium, the deceased after the infliction of the injuries and after the flight of the assassins and robbers, had partially regained his senses and the use of his limbs; had closed his door. examined his money drawers, had attempted to light a fire in his stove, had placed a newspaper on the floor, unbuttoned and pulled down his pantaloons, and evacuated his bowels, had staggered around the walls steadying himselt with his bloody hands and after seating himself in a chair had died and fallen upon the floor, overturning the chair and lying upon the floor with his legs bent. He appears to have died in the sitting posture and after death and even after the establishment of the rigor-mortis the body had fallen upon the floor.

It appears from the testimony, that, between the hours of 9 and 11 o'clock, P. M., on the night of the 27th (a dark and stormy night), four powerful stalwart negro men entered the store of Narcisse Arrieux and called for ardent spirits. As the old man turned his back to draw the liquor from the barrel he was struck by one or more of the robbers, with a four pound iron weight on the back of the head. This blow not having the effect desired by the assassins, the weights upon the counter were hurled in rapid succession against his head. The powerful leader of the robbers sprang over the counter and inflicted repeated blows upon his head with a short hickory stick, armed with a leaden head, which had been carried concealed in the sleeve of his coat.

It is probable that the victim lay unconscious during the robbery of the store and after the assassins had withdrawn, the profuse hemorrhage (as shown by the large pool of blood behind the counter, where he fell), relieved the congestion of the brain temporarily; and upon the return of consciousness, he was able to stagger to the door and close it and to visit his office and sleeping room and even to examine the desks in which he kept his money and books.

#### PROSECUTION OF THE ACCUSED BY THE STATE.

Certain parties suspected of the murder were arrested: four negro men were incarcerated in the city jail charged with the murder of Narcisse Arrieux. Spots of blood were observed by the sheriff, upon the coat of Wilson Childers, a powerful negro man, who was known to have been at the store of Narcisse Arrieux, on the night of the 27th.

Upon his arrest on the 28th, Wilson Childers affirmed that these spots on his coat, were caused by red paint, which was rubbed off from a barrel of whiskey which he had handled for a merchant.

By the order of the Court an examination by physicians and druggists of these spots was made in Donaldsonville, on or about the 29th of December, 1876. There being no microscope of sufficient power in the town and its vicinity, the Court ordered Mr. T. A. Landry, to proceed to New Orleans with

portions of the coat and shirt of the accused Wilson Childers and to secure the services of a competent chemist and microscopist for their careful and thorough analysis.

Early on the morning of January 2d, 1877, I received the following note from Dr. F. B. Gaudet, late President of the Board of Health, State of Louisiana.

NEW ORLEANS, January 2d, 1877.

Joseph Jones, M. D., Professor of Chemistry, Medical Department, University of Louisiana, New Orleans.

DEAR DOCTOR:—Mr. T. A. Landry, of the parish of Ascension, has been appointed custodian of a sealed package containing three pieces of woolen stuff, cut from the coat of one Wilson Childers, accused of having on Wednesday (27th Dec., 1876) murdered a man, and he was ordered to proceed to New Orleans to submit the above to a chemist and microscopist of well known reputation, for analysis and examination. The report must be officially made to the judge of the Parish.

I have of course suggested your name. \* \* You know that you must first take the oath before a justice of the peace, and swear to the report which you will prepare. \* \*

Very respectfully, your obedient servant,

F. B. GAUDET.

RESULT OF CHEMICAL AND MICROSCOPICAL EXAMINATION OF STAINS ON THE COAT AND SHIRT OF WILSON CHILDERS.

Upon careful chemical and microscopical analysis and examination, I determined that the stains on the coat and shirt of the accused, were not paint, but were human blood.

I also determined the fact that the blood was that of a human being who had suffered and was probably suffering at the moment when the blood was abstracted, with malarial or paroxysmal fever.

My written statement of the general result of the chemical and microscopical analysis and examination, sworn to before a justice of the peace, together with the pieces of cloth carefully sealed, were forwarded through Mr. T. A. Landry, to the Honorable Court, 4th Judicial District, State of Louisiana.

I did not introduce into this statement any allusion to the pathological state of the blood, but simply announced these results, namely:

1st. That the stains were not due to red paint nor to any form of paint.

2d. That the stains were blood.

3d. That the blood presented all the characteristics of human blood.

I informed Mr. Landry, however of the conclusion to which I had arrived, that the blood was that of a human being who had suffered and was suffering at the moment of its abstraction, with malarial or paludal fever.

On the 29th of June, 1877, I received a peremptory summons, to appear in person in the 4th Judicial District Court, Ascension Parish, State of Louisiana, signed by the Honorable M. Marks, Judge.

I repaired forthwith, by steamer and railroad to Donaldsonville, and found that the Honorable Court had continued the case.

Subsequently I was furnished by John H. Ilsley, attorney at law, with pieces of wood stained with blood, cut from the drawers which contained the money of Narcisse Arrieux.

Chemical and microscopical analysis showed that this blood which was beyond a doubt that of the deceased, presented the same pathological change as that found on the shirt and coat of Wilson Childers the accused.

After the examination the particles of wood were carefully preserved about my person.

On the 27th of May, 1878, I received at the hands of the Deputy Sheriff, in the City of New Orleans, the following:

The State of Louisiana, vs.

Wilson Childers, et als.

To Dr. Joseph Jones,

The State of Louisiana, Parish of Ascension, 4th Judicial District Court.

You are hereby summoned, in the name of the State of Louisiana to appear before the 4th Judicial District Court of the Parish of Ascension on the 29th day of May, in the year of our Lord 1878, at 10 q'clock, A. M., to testify the truth according to your knowledge, in a certain case now pending before this Court in which the State of Louisiana is plaintiff, and Wilson Childers et als is defendant; and hereof fail not under penalty of the law.

Witness the Honorable H. D. Duffel, Judge of said Court, 23d day of May, 1878.

# L. E. BENTLEY, Clerk of said Court.

In accordance with this summons I appeared in the 4th District Court, parish of Ascension, Wednesday, May 29th, but I was not placed upon the witness stand until 9 o'clock, P. M.. Friday night, May 31st.

Through the courtesy of the accomplished clerk of court, Mr. L. E. Bentley, I was furnished with the following report of my testimony as elicited by the examination of the State, represented by D. B. Earhart, District Attorney, and R. N. Sims, Edward N. Pugh, and John H. Ilsley, Jr., Attorneys at Law, and of the defense as conducted by Col. Winchester of St. James.

In the following report, the questions propounded by the State as plaintiff are indicated by the letter S, those by the defence, for the prisoner, by the letter D, and the answers which I returned relating to the chemical and microscopical examination of the blood found upon the clothing of the prisoner, and in the house of Mr. Narcisse Arrieux, by the letter J.

The counsel for the State after a minute examination as to the time which I had practiced medicine (1), held the professor, ship of chemistry (2), and devoted special attention to the chemical and microscopical examination of the blood of animals

<sup>(1)</sup> Commenced the practice of Medicine in 1855.

<sup>(2)</sup> Filled the chair of Chemistry, Toxicology and Pharmacy in the Savannah Medical College, 1856, 1857; in the Medical College of Georgia at Augusta, 1858–1861; served as surgeon in the Provisional Army of the Confederate States, up to the close of the civil war in 1866, and resumed the Professorship of Chemistry in 1866; have held the chair of Chemistry and Clinical Medicine in the Medical Department of the University of Louisiana, and have served as visiting physician of Charity Hospital, New Orleans, 1869 to present time, May 31st, 1878.

and man (1), in health and disease and under various conditions, proceeded as follows:

#### EXAMINATION ON PART OF STATE OF LOUISIANA.

- S. Was a sealed package, containing particles of a coat and shirt, at any time delivered to you officially by this Court for chemical analysis and microscopical examination?
- J. On or about the 2nd of January, 1877, a small sealed package containing particles or pieces of cloth, was delivered into my hands, with an official warrant for a chemical analysis and microscopical examination, signed by Judge Marks of this Honorable Court.
- S. Is the following communication to this Court in your hand writing? Is the signature appended yours? If so read the communication to the Honorable Court.
- J. The report is in my hand writing, and the signature is genuine. The paper reads as follows:

MEDICAL DEPARTMENT UNIVERSITY OF LA., New Orleans, January 2d, 1877.

On the 2d of January, 1877, a sealed package was placed in my hands by L. A. Landry, acting under the order of M. O. Markes, Parish Judge, of the Parish of Ascension. Upon breaking the seal, two smaller packages were found; namely, one marked "from left sleeve of coat," containing two pieces of cloth; the other marked "from left breast," containing three pieces of cloth. The said pieces of cloth contained spots of a red and brownish red color. Careful microscopical and chemical

<sup>(1)</sup> Physical, Chemical and Physiological Investigations upon the vital phenomena, structure and offices of the solids and fluids of Animals. The American Journal of the Medical Sciences, Vol. xxxiii, July, 1856, pp, 13–63.

Investigations Chemical and Physiological relative to certain American vertebrata. Smithsonian Contributions to Knowledge, Washington, D. C. 1856.

Diabetes Mcliuus, Constitution of Bloed: Southern Medical and Surgical Journal, N. S. Vol. xiv. No. 5, May, 1858, p. 291. Observations on Malarial Fever. Southern Medical and Surgical Journal, N. S. Vol. xiv. pp 363, 435, 507; 579, 651, 723, Vol. xv. 1859, pp. 75, 147, 218. Observations on some of the Physical, Chemical, Physiological and Pathological Phen-mena of Malarial Fever, Trans. Am. Med. Association, Philad., 1859, pp. 1—419.

Relations of Pm umonia to Malarial Fever, Southern Medical and Surgical Journal, Sept. 1866, pp. 220. Observations of various diseases, as Cerebro Spinal Meningitis, Pneumonia, Typhoid Fever, Malarial Fever, Small Pox, Pyaemia and Hospital Gangreen. Sanitary Memoirs, New York, 1867, Vol. 1, Medical, pp. 383, 483, 642, Vol. ii, Surgical, pp. 145, 580. Various articles on Blood, Malarial Fever, Vellow Fever, and other diseases in New Orleans Medical and Surgical Journal, 1869, 1878, etc. Medical and Surgical Memoirs, New Orleans, 1876, Vol. 1, p. 820.

examinations showed that the textures of the cloth, in the discolored portions have been saturated with blood. The colored and colorless corpuscles were distinctly seen under a magnifying power of 420 diameters.

The colored and colorless corpuscles, resembled in size and structure those of man. Haematin and albumen were also present in the matters extracted from the discolored spots.

JOSEPH JONES, M. D.,

Professor of Chemistry Medical Department University of Louisiana.

Sworn to and subscribed before me, this January 2d, 1877.

WM. H. HOLMES.

Second Justice of Peace, Parish of Orleans.

- S. Did you destroy the pieces of cloth containing the stains during your chemical and microscopical examination, or did you redeliver them to Mr. Landy, duly sealed.
- J I carefully preserved the pieces of cloth, and after seal, ing them carefully, delivered them to Mr. L. A. Landry in the presence of Wm. H. Holmes, Second Justice of the Peace, Parish of Orleans.
- S. Can you identify this package, with its seal, direction and contents?
- J. I can: the direction is in my hand writing; the seal is mine; the particles of cloth resemble in all respects those which were delivered to me by Mr. Landry, and which I examined in my laboratory, on or about the 2d of January, 1877.
- S. Did the pieces of cloth when delivered to you by Mr. Landry, contain any spots, or present anything peculiar?
- J. They did. Each piece of cloth contained spots of a red and reddish brown color.
  - S. Were these spots caused by red paint?
  - J. They were not caused by paint of any color or description.
- S. How would you detect spots of paint on any texture as cloth or clothing?
  - J. Paint consists of oil mixed with various metallic, earthy

or vegetable or animal substances, according to the nature of the paint and the purposes to which it is applied. The oil may be extracted from paint, by certain agents, as sulphuric ether and sulphuret of carbon. The oil may be recognized by its physical and chemical properties and also by the presence of globular masses of various sizes under the microscope. The coloring matters of paint under the microscope as a general rule present a granular appearance, and in no kind of paint do they resemble the colored blood corpuscles of man and animals. In the case of red paint, some form of the oxide of iron, or of the oxide of lead, or the sulphuret of mercury (vermillion) may be used. After the extraction of the oil from the paint by sulphuric ether these oxides specified may be rendered soluble by the action of the mineral acids and especially by hydrochloric and nitric acids.

The solutions thus obtained may be subjected to several tests. The salts of iron give blue and bluish green precipitates with ferricyanide and ferrocyanide of potassium, and black with solution of tannic acid, and the per-salts of iron give a brownish red precipitate with aqua ammonia, and a deep red color with sulpho-cyanide of potassium.

If the color of the paint be due either to the oxide or the sulphuret of mercury, after the abstraction of the oil in the manner specified, the metallic mercury may be reduced by heat, or a nitrate, sulphate or chloride formed by the action of the respective acids, and the soluble salt thus formed may be subjected to various re-agents, as iodide of potassium (green precipitate with proto salt of mercury, and red precipitate with per salt of this metal); lime water and solution of potassa, black precipitate with proto-salt and yellowish red with per salt; a plate of polished copper plunged in solution of soluble salt of mercury is quickly coated with metallic mercury, which may be removed by sublimation dissolved in the mineral acids and subjected to the test justs specified. If the color be due to the red oxide of lead, the metal may be reduced from the paint by means of the blow pipe: the oxide may also be separated from the oil and subjected to the action of nitric acid, and the solution subjected to the action of various chemical re-agents, as iodide of potassium (yellow iodide of lead), chromate of potassa (yellow chromate lead), sulphuretted hydrogen (black sulphuret of lead), sulphuric acid, and soluble sulphate of lead (white sulphate of lead).

- S. What did you determine these spots to be by chemical and microscropical examination, and state fully to this Honorable Court the ground upon which your statement was based, and the processes by which you arrived at your conclusions?
- J. Chemical and microscopical examination, showed the spots to be those of blood. The presence of blood was determined by the following processes and re-agents: When the stains were examined in a strong light, with a low power of the microscope, the fibres were not merely colored, but presented a shining glossy appearance, and the individual fibres were observed to be invested with portions of dried coagulum or clot. Certain chemical processes as the following established presumptively, that the matter which imparted the color to the spots on the clothing of the accused, was blood.

It readily combined with cold distilled water, forming a bright red solution; this color was not changed to a crimson or a green tint by a few drops of a weak solution of ammonia, but when this agent in concentrated form and large amount was added, the red liquid acquired a brownish tint. liquid obtained from the particles of blood in the textures of the cloth, by means of cold water, coagulated when it was boiled, the color was destroyed and a muddy brown flocculent precipitate was formed. When the coagulum was collected on a filter and dried it formed a black resinous substance quite insoluble in water, but readily dissolved by boiling caustic potash, forming a solution which was of a greenish color by reflected, and reddish by transmitted light. When the solution of the clots in cold water, was subjected to the action of strong nitric acid, the red coloring matter of the blood and its albumen, were coagulated, and a dirty brown precipitate was thrown down.

When examined under the microscope with various powers ranging from 400 to 1800 diameters, the red matter causing red stains was found to consist of numerous circular disc-like or flattened globules, having an average diameter of 1-3200th of

an inch. The white or colorless corpuscles of the blood were also clearly distinguished.

- S. Did you observe anything which would indicate the state of the health of the individual from whom the blood had issued upon the clothes of the accused? and if so state your observations to this honorable court.
- J. I observed changes in the blood obtained from the pieces of cloth which lead me to infer that the person from whom it was abstracted had suffered and was most probably at that time suffering with paroxysmal, paludal or malarial fever. This opinion was based chiefly upon the following abnormal substances observed in connection with the colored and colorless or white blood corpuscles; black pigment or melanæmic corpuseles, varying from 1-10,000 to 1-1000ths of an inch in diameter; conglomerations of these melanæmic particles, in masses of various sizes; colorless corpuscles or leucothytes which contained small granular masses of black pigment. Many of the particles of the melanæmic pigment were spherical, others irregular and angular, some entirely free, others incased in a hyaline mass; others incorporated with cellular elements which are more or less related to the white corpuscles of the blood.

These black pigment particles indicated the destruction or alteration of the blood corpuseles and the escape of the heamatin of the red globules which is characteristic of malarial fever.

- S. How long have you been engaged in the microscopical and chemical investigation of the blood of man in disease, and upon what facts do you base the preceding statement?
- J. My investigations upon the chemical and microscopical changes of the blood in fevers, and especially in malarial and yellow fevers were commenced in 1856, and have been pursued continuously up to the present moment: and during the past ten years I have treated in the wards of the Charity Hospital of New Orleans, over four thousand cases of various diseases, more than one-half of which were due to the action of the malaria of the swamps and marshes of the Mississippi valley.

The blood in a large number of these cases has been subjected to microscopical and chemical examination, and in fatal cases post-mortem examinations performed. The result of these investigations, which throw light upon the inquiries of this Honorable Court are as follows:

- 1st. The malarial poison produces profounder alterations and more rapid destruction of the colored blood corpuscles than any other known febrile agent.
- 2d. The destruction of the colored corpuscles takes place chiefly in the spleen and liver.
- 3d. The black pigment resulting from this haematin of the blood corpuseles, is frequently observed in the blood as it circulates in the vessels and capillaries in masses of various sizes and in the form of cellular elements.
- 4th. The black pigment is deposited in the capillaries of various organs and tissues, as those of the liver, medulla of the bone, brain and subcutaneous tissue.
- 5th. The peculiar sallow, greenish-yellow and bronzed hue, which characterizes those who have been for a length of time subjected to the prolonged action of the malarial poison or to its powerful action in pernicious remittent fever and in malarial haematuria, is due not merely to hepatic and splenic derangement, but also to the deposit of pigment particles in the subcutaneous capillaries.
- S. Did you make any further examinations of blood in this case or in connection with the deceased? If so state the result.
- J. I examined bits of wood, brought to New Orleans, and placed in my hands by John H. Ilsley, attorney at law and counsel for the State. These pieces of wood, the one of cedar and the other of mahogany were spotted and coated upon the smooth side with blood. Microscopical and chemical examination revealed that it was human blood, and human blood, presenting similar pathological alterations to that examined on the particles of cloth, cut from the coat and shirt of the prisoner, and previously described.

The blood as in the first examination contained numerous black particles, and pigment cells and colorless corpuscles, containing round black pigment particles. Upon arriving in Donaldsonville, through the kindness of Dr. John E. Duffel, I visited the house formerly occupied by the deceased and found that the particles of wood fitted exactly into the front portions of two drawers belonging to two desks. Undeniable testimony established the fact that the blood on these pieces of wood was that from the deceased after the infliction of the blows on the head.

- S. Have you preserved these pieces of wood? and if you have produce them before the jury and fit them into the places from whence they were cut, in the drawers which have been brought to this Court.
- I. I have carefully preserved the pieces of wood upon my person from their first reception to the present time. They correspond exactly to the missing portions of wood in the drawers exhibited by the State before this Honorable Court.
- S. Have you examined the blood of various animals, as for instance, reptiles, birds and domestic animals? And if you have state the general results of your examinations, and if the blood of these animals can be distinguished from that of man?
- I. I have examined microscopically and chemically the blood of a large number of the indigenous fish, amphiuma, sirens, batrachians, ophidians, saurians, birds and wild mammalia, and also the blood of domestic fowls and animals, and can state that in fish,\* amphibians, batrachians, saurians and birds, the blood corpuscles can be distinguished at once and beyond all question under the microscope, on account of the

<sup>\*</sup>The blood discs of fishes are commonly of a full elliptic shape: they present the largest size in the sharks, but are smaller in them in proportion to the body, or mass of blood than in the batrachia. The white corpuscles are in less proportion in the blood of fishes, than in saurians, birds or mammals. In my physiological and chemical researches, published by the Smithsonian Institution in 1856. I endeavored to establish the comparison of main physiological importance between the blood in different groups of vertebrates, namely, that which relates to the proportion of the organic matters contained in the water. It was then clearly shown that the blood varied in the different classes of animals in physical and chemical properties. The blood of reptiles has red corpuscles of a flattened sub-biconvex eliptical shape: proportionally smallest in ophidia, roundest in chelonia and largest in batrachia.

In birds the blood discs are more abundant than in the cold blooded vertebrates; they are neucleated, eliptic and flattened in form; averaging in size, in long diameter 1-2100th, to 1-3306th of an inch.

elliptical shape and nucleated centre; but in the case of the domestic and indigenous mamalia, a more critical examination is required; for in this class of animals the size of the globules varies within comparatively narrow limits, they have a flattened or disc-like form, and with the exception of the camel tribe, the outline of the disc is circular.

#### EXAMINATION ON THE PART OF THE DEFENCE.

- D. Are you absolutely certain that the stains on the pieces of cloth, placed in your hands for microscopical and chemical analysis were caused by human blood?
- J. The substances causing the stains presented all the chemical and microscopical properties of human blood or blood presenting a special pathological alteration.
- D. Can you by means of chemical and microscopical examination of the blood determine any form of disease?
- J. By chemical and microscopical examination, I am not able to determine every form of disease.
- D. You would then be in doubt concerning the result in certain diseases of the chemical and microscopical examination; please state therefore if there are any diseases, the nature of which may be revealed by the microscope?
- S. The microscope enables us to distinguish clearly the changes induced in the blood by malarial fever. That condition of the blood known as leucocythemia or leukaemia can be accurately determined by microscopical examination. There was no doubt in my mind that the blood examined was human blood, from one who had suffered and perhaps was at the time suffering with malarial fever.
- D. What did you say was the average size of the colored blood corpuscies in the stains upon the cloth? and whilst giving this measurement, give those also of the dog, horse, rat, cat, rabbit, ass, ox, cow, pig, sheep and goat.
- S. The average of the diameter of the blood corpuscles from the stains, was about 1-3200 of an inch. The corpuscles of human blood are larger than those of domestic animals. Thus

the average diameter in the dog, is about 1.3540 of an inch; horse, 1.4600 of an inch; in the rat, 1.3814 of an inch; in the cat, 1.4400 of an inch; in the rabbit, 1.4000 of an inch; in the ass, 1.4000 of an inch; in the ox, 1.4267 of an inch; in the cow, 1.4200 of an inch; in the pig, 1.4230 of an inch; in the sheep, 1.5300 of an inch; in the goat, 1.6366 of an inch.

- D. Do not those individual blood corpuscles in man and animals vary in their diameter in the same specimen of blood? and if so state to the Honorable Court the causes of these variations.
- S. The blood corpuscles of man and animals vary in their diameters within certain limits; thus those of man may vary from 1-2000 to 1-4000; of the dog from 1-4000 to 1-6000; of the hare from 1-2000 to 1-8000; in the ox from 1-4878 to 1-4444; in the sheep 1-5333 to 1-6000 of an inch.
- D. Difficulty therefore exists in distinguishing between the blood of man and domestic animals: and in view of this fact do you assert absolutely, that the stains in the pieces of cloth were human blood?
- S. I admit that difficulties exist in such examinations. I affirmed that the human blood corpuscles upon an average were larger than that of the domestic animals named. I also affirmed that the stains upon the pieces of cloth presented all the characteristics of human blood.

I went a step further and affirmed that this blood presented pathological appearances which as far as my investigations extend, are peculiar to human blood in a certain diseased state, and that I have never observed such a condition in the blood of animals; and that the blood from the house in which the deceased was murdered presented similar chemical and microscopical characters.

- D. Can the colored blood corpuscles be detected with accuracy in dried blood?
- S. They can be detected in many cases; and they were detected accurately in the case now before this Honorable Court.

- D. Can you distinguish between the blood of a woman and the blood of a man?
  - S. I cannot.
- D. Can you distinguish the blood of a fœtus from the blood of its mother?
  - S. I cannot.
- D. Can you distinguish the blood of the different races of men? for example, can you chemically and microscopically distinguish the blood of a white man from that of a negro?
- S. Different races are said to have distinct odors; sulphuric acid applied to blood will liberate the peculiar odor of the animal; I have upon many cases satisfied myself of the possibility of developing the peculiar odor of the blood in different animals by means of sulphuric acid. I cannot however speak positively with reference to the blood of the different races of mankind.

#### VERDICT OF JURY.

By the testimony of several witnesses, two of whom were practising physicians, it was clearly established that, for some weeks before and up to the time of his murder, Narcisse Arrieux was suffering with intermittent malarial ferer (chills and fever). The judgment of the jury rested to a great degree upon the presence of blood on the clothing of the accused Wilson Childers.

We have been informed by Mr. John H. Ilsley, Jr., one of the Attorneys for the prosecution, that an important witness testified as to the guilt of the four negroes accused of the murder of Narcisse Arrieux. The jury rendered the verdict guilty of murder with capital punishment.

### CURRENT MEDICAL LITERATURE.

THE INTRA-VENOUS INJECTION OF MILK AS A SUBSTITUTE FOR TRANSFUSION OF THE BLOOD.

Dr. T. Gaillard Thomas contributes an interesting article on this subject in the May No. of *The New York Medical Journal*. After referring to the operation of transfusion of blood and calling attention to the usual results attending this operation, the consideration of milk as a substitute for blood in the operation was taken up and thus discussed:

"When the proposition of injecting milk directly into the venous blood as it goes toward the heart is first made, it is likely to excite violent prejudice and opposition in the mind of the hearer. The fluid, it is usually declared, is not homogeneous with the blood; the casein will cause obstructions in small arteries; and the emunctories, in endeavoring to eliminate it, will become overwhelmed by congestion. But is there really much more apparent want of homogeneity between milk and blood than between chyle and blood? The latter collected in the receptaculum chyli passes up the thoracic duct, and, as an oily, white, milky-looking fluid, is emptied directly into the left subclavian vein. The chyle now mingles with the blood, where, between the venous extremity of the thoracic duct and the right heart, it can readily be traced in oil globules and granules. While passing through the lungs these disappear, but in what manner is not certainly known. But not only is the blood supplied with fat by the thoracic duct; the portal vein likewise absorbs it from the lining membrane of the intestines, and, passing it through the liver, empties it into the general circulation. This double supply is too much for the lungs to dispose of, and the fatty elements which form the basis of chyle accumulate in appreciable quantities throughout

"Some years ago a practitioner, of very large experience in this city, brought before the Academy of Medicine a quantity of blood, which presented, he thought, a most extraordinary and unheard of phenomenon. This blood, about sixteen ounces in amount, had been drawn by him on the previous day from the arm of a gentleman who had fallen from his seat at the dinner table, after a hearty meal, in an attack of apoplexy. Without special design the doctor had left the blood standing in a glass vessel in his office, when after some hours he had discovered, toward the top of the vessel, a distinct and voluminous zone of white, milky-looking fluid, a fluid which had evidently been previously mixed with the blood, and was now

separated from it. To this remarkable phenomenon the attention of the Academy was called. Prof. Dalton, who was present, stated in explanation the well-known physiological fact that, for some hours after digestion, the blood, if the food taken has been rich, is always loaded with a superabundance of oleaginous material, and that if drawn will often present the appearance known as that of "chylous" or "milky" blood. In the dog, physiologists produce this condition at will. to demonstrate the fact which I have stated.

"Chyle is fat in emulsion in a serous fluid. Milk is fat molecularly divided and suspended in water with casein and sugar. The salts are so small in amount that in 1,000 parts

they represent only 6."

Not proposing to risk to any extent the support of his views in reference to the substitution of milk for blood in transfusion on these facts, he throws theory aside and introduces cases

illustrating the practical working of the method.

The first case reported occurred in October, 1875, and the intra-venous injection of milk was made on a woman reduced by profuse recurring uterine hemorrhages after the operation of ovariotomy. Her condition at the time of transfusion is thus fully described:

"At 6 that evening (Monday, four days after operation) I received a telegram urging my immediate attendance on Mrs. S., who appeared to be rapidly sinking. When I saw her I found her bathed in cold sweat, with a temperature of 101°, a pulse of 150, and a facies expressive of approaching dissolution. It was decided at once to try the effect of transfusion."

Experience having rendered Dr. Thomas averse to transfusion of blood, milk was substituted. A healthy cow was driven into the yard, a pitcher covered with gauze was placed in a bucket of warm water, the vein exposed, and the cow milked at the moment the fluid was needed. By means of the transfusion apparatus of M. Colin of Paris, eight and a half ounces of milk were injected into the median basilic vein. The first effect noticed followed the injection of the third ounce; the pulse became rapid and weak, and the patient declared her head would burst, transfusion continued. She was then left perfectly quiet. In an hour her pulse was 150 and her temperature rose to 104°. The high temperature soon passed off and the patient went to sleep. Next morning her pulse was 116 and her temperature only 99½°. The patient steadily improved and walked down stairs on the twenty-first day after the operation of ovariotomy.

This case was published and subsequent experiments on lower animals proved that to obtain successful results the milk to be injected must be perfectly pure and fresh. One case operated upon by Dr. Howe terminated fatally in consequence of the injection of milk which had undergone decompo-

sition, and developed noxious properties.

The next case of lacteal transfusion in the practice of Dr. T., occurred in February, 1878. The patient had been operated upon for ovarian tumor, and, after having suffered with peritonitis, seemed to be recovering, when on the fourteenth day after the operation a very large abscess discharged from the abdominal cavity a pint or more of pus. She became exhausted, and three days after was regarded as more bund; pulse 152: temperature 103;0. Injected milk into the median basilic vein, using as the transfusing apparatus, a glass funnel, having attached to it a peice of India-rubber tube with a small canula at its extremity. During and after the operation the patient was sustained by hypodermic injections of brandy and aromatic spirits of ammonia. The patient rallied and seemed to be doing well until March 1st, when her vital forces were rapidly failing, and a second intra-venous lacteal injection was determined upon. Fifteen ounces of fresh warm blood were allowed to flow into the left median cephalic vein; before the milk was all injected the pulse fell sixteen beats. Three other lacteal injections were made but patient died March 5th, at 1 P. M. At the post-mortem examination it was found that the cause of death was localized grangrene of a portion of the large intestine. Thus, with this condition existing, life was to all appearances prolonged for six days by five intra-venous injections of milk.

The next case reported is of little value as illustrating the good effects of milk as a substitute for blood injected into the veins, but simply corroborates the fact that milk injected into the circulation is innocuous. The patient had been operated upon for removal of an ovarian tumor. Adhesions were extensive and the tumor was torn from the peritoneum, leaving bleeding surfaces from which uncontrolable oozing occurred. She was thus loosing more than was supplied by the intravenous injection and died from the disproportionate loss.

The conclusions arrived at by Dr. Thomas are expressed by

him in the following propositions.

"1. The injection of milk into the circulation in place of blood is a perfectly feasible, safe, and legitimate procedure, which enables us to avoid most of the difficulties and dangers of the latter operation.

"2. In this procedure, none but milk removed from a healthy cow within a few minutes of the injection should be employed. Decomposed milk is poisonous, and should no more be used

than decomposed blood.

"3. A glass funnel, with a rubber tube attached to it, ending in a very small canula, is better, safer, and more attainable than a more elaborate apparatus which is apt, in spite of all precautions, to admit air to the circulation.

"4. The intra-venous injection of milk is infinitely easier than the transfusion of blood. Any one at all familiar with surgical operations may practice it without fear of great difficulty or of failure.

"5. The injection of milk, like that of blood, is commonly followed by a chill, and rapid and marked rise of temperature; then all subsides, and great improvement shows itself in the

patient's condition.

"6. I would not limit lacteal injections to cases prostrated by hæmorrhage, but would employ it in disorders which greatly depreciate the blood, as Asiatic cholera, pernicious anæmia, typhoid fever, etc., and as a substitute for diseased blood in certain affections which immediately call for the free use of the lancet, as puerperal convulsions, etc.

"7. Not more than eight ounces of milk should be injected

at one operation.

"8. In conclusion, I would suggest that, if milk answers, not as good, but nearly as good, a purpose as blood under these circumstances, its use will create a new era in this most interesting department of medicine. That it will answer such a purpose I am convinced from lengthy consideration and some experience of the matter; and I would be false to my own convictions if I did not predict for "Intra-venous Lacteal Injection" a brilliant and useful future."

#### PHOSPHORUS IN THE TREATMENT OF CHRONIC ALCOHOLISM.

The Journal d' Hygiene, of February 21, 1878, contains an article on this subject, taken from the Gazette Medicale Italienne. Dr. d' Ancona, the author of the paper, remarks in the outset that this mode of treatment is not new, but he thinks it has not received the attention which it deserves. He justly states that the rapid incease of troubles, due to the excessive use of alcoholic liquors, and the great difficulty of treating such cases effectually, makes any remedy, which seems to render any service to such patients, worthy of careful study

and investigation.

The etiology and symptomatology of chronic alcoholism are, alas, but too well known, and hence he deems it unnecessary to consider these points. He gives the details of five cases in which he has used phosphorus in the form of phosphide of zinc. We give a brief history of one of these cases. The treatment was commenced on the 20th of May, 1877, and continued without interruption till the 1st of October following. During this time, the patient took from one to ten centigrammes of the remedy a day. Eight grammes were taken in all. During the month of October, it was only given four days each week, in the dose of three centigrammes each day. There were no evil results produced; no loss of appetite, and

no gastric disturbance; indeed, the general condition steadily improved.

He comes to the following conclusions at the end of his

paper:

1. Phosphorus is a very useful remedy in the treatment of

chronic alcoholism.

2. The medicine is perfectly tolerated in doses which no

one has dared to give heretofore—ten centigrammes (nearly 12

grains) a day for many weeks.

3. The remedy gives to drinkers a feeling of comfort and strength, and furnishes the force necessary to carry on their organic functions, which they have been accustomed to get from alcoholic liquors.

4. The medicine seems also to have the properties of a prophylactic and an antidote, for it causes very beneficial changes in the system, even when the use of liquor has not

been entirely stopped.

Dr. d'Ancona then gives a theory as to its modus operandi in three cases, and in conclusion begs that a fair and impartial trial be given the medicine, and that the results be published.—[Virginia Medical Monthly.

#### THYMOL AS A REMEDY IN SKIN DISEASES.

Dr. H. Radcliffe Crocker (Brit. Med. Jour., Feb. 16, '78,) has been using thymol to advantage in psoriasis, eczema, lichen planus, pityriasis versicolor, etc. He employs the following formulæ:

1. An ointment, consisting of one ounce of vaseline, and

from five to thirty grains of thymol.

2. A lotion, consisting of thymol, five grains; rectified spirit and glycerine, each one ounce; water sufficient for eight ounces,

In the three former diseases, he found the ointment beneficial sub-acute cases, in fact, in such cases as are commonly treated

with tar. In pityriasis versicolor, he used the lotion.

As thymol is quite irritating in strong solution, it cannot be employed in cases that are all acute. Being colorless, and of not unpleasant odor, it presents manifest advantages over tar.

H. G. P. in Hospital Gazette and Archives of Clinical Surgery.

# THE LOCAL USE OF SOLUTION OF QUININE IN CHRONIC IRRITATION OF THE BLADDER.

(The Lancet, February 23, 1878.) Mr. T. W. Nunn has been using quinia locally for some years as an antiseptic, a bactericide, and in some forms of venereal sores. He says, however, that, so far as its local use is concerned, the most striking result is obtained by injecting the solution of quinine into the

bladder in those cases where the urine is loaded with pus and is intensely offensive, the bladder being irritable, the desire to urinate recurring every hour, or more often, for example, where the bladder only imperfectly empties itself, or when the continual use of the catheter is called for in enlarged prostate, or in atony of the organ. Mr. Nunn has recently been informed by a patient who has habitually had recourse to the catheter,—the urine voided being alkaline and highly offensive,—that the injection of the quinine solution has been followed by such an abatement of the sensitiveness of the neck of the bladder that the desire to micturate comes on now only after the lapse of six or seven hours, in place of after the lapse of every hour or every hour and a half.

The following is the method of using the quinine as a bladder injection. Dissolve twenty grains of disulphate of quinine in twenty-five ounces of water by the aid of a few drops of dilute sulphuric acid or a teaspoonful of common brown vinegar. Of this solution inject into the bladder two or three ounces, and

let it remain .- Medical Times.

#### ON THE TREATMENT OF ENLARGED PROSTATE.

BY WASHINGTON L. ATLEE, M. D.

Read before the Philadelphia County Medical Society, January 23d, 1878.

One of the most troublesome, annoying, and distressing diseases that I have been called upon to treat during a long professional career, and one whose treatment until recently has been most unsatisfactory, has been Eulargement of the Prostate. As this has been the universal experience of the profession, I need not collate and record the past history of the treatment of this malady. So far as a reduction of the size of the gland is concerned, it has been an entire failure. The mechanical obstruction to micturition was considered to be a permanent difficulty, and required mechanical means to overcome it.

Neither need I lengthen this paper by detailing the symptoms of this disease, as every member of this Society must be too familiar with them.

I wish merely to call your attention to a few anatomical, physiological, and therapeutical facts, which led me to institute a rational practice in the treatment of enlarged prostate and which, I am happy to say, has proved highly satisfactory, and has surprised me in its results. My experience has now extended over several years, and although the success of the practice is, perhaps, not what many could wish, yet it accomplishes results heretofore unknown.

"The prostate is essentially a muscular body, consisting of circular or orbicular involuntary fibres, with one large central hole for the passage of the urethra, and another smaller oblique opening, directed upward below the former, for the transmis-

sion of the common ejaculatory seminal ducts to the central urinary canal ... Its circular fibres are directly continuous behind, without any separation, with the circular fibres of the bladder." Ellis. "The prostate is thus essentially a circular involuntary sphincter to the neck of the bladder, and expeller of the seminal fluid; but although it contains many mucous glands and follicles, intermixed with muscular fibres, it is by no means entitled to the name of gland. It contains, further, a small vesicle or uricle, at the mouth of which the ejaculatory ducts open, and which is believed to be the male homologue of the female uterus." Dewitt.

Besides the involuntary muscular tissue which enters into the composition of the prostate itself, the vessels of the gland have also in their coats the unstriped or involuntary muscular fibre. The same exists in the coats of the bladder in a very marked degree.

These involuntary muscular fibres are more or less extensible, and, when normally stretched, have an organic tendency to contract. This we see in the uterus, in the bladder, and in the diastole of the vascular system.

Now, these are the anatomical and physiological data on which I propose to base my treatment of enlarged prostate.

Let us further inquire into the pathological condition of this enlarged organ, and its consequent derangements:—

The affection consists in a hypertrophy or enlargement of the natural muscular structure, and incidentally of the glandular. It may affect the whole organ, especially the lateral lobes, pretty uniformly, in which case the prostatic portion of the uerthra is greatly lengthened; or it may affect one side more than the other, in which case the canal will be twisted; or it may affect the posterior median portion, which lies between the ejaculatory ducts, enlarging it into what is commonly called the middle or third lobe. Hypertrophy or derangement of the muscular fibres at and near the trigone may produce a transverse bar at the neck of the bladder. The enlargement, further, may be due to an increase of the organ generally; or to the development of one or many masses of fibrous tumor, exactly similar in structure to those connective masses of muscular fibre which are developed in the womb, and are commonly known as fibrous tumor." Druitt.

It is well known that in consequence of this enlargement of the prostate the accumulation of urine becomes excessive, the obstruction to its passage becomes serious, the coats of the bladder become enteebled and semi-paralyzed, irritating deposits occur that are never voluntarily expelled, and that the catheter is the usual and only resource. Anything, therefore, which is calculated to diminish the size of the prostate and increase the contractile power of the bladder will meet all the indications required.

Have we any agent in the materia medica possessing the power to act upon unstriped muscular fibre and cause it to contract? It is settled now, beyond contradiction, that we have such an agent in ergot, and that in all cases of relaxed or stretched involuntary muscular fibre this medicine will meet the requirements. Witness, for instance, its action upon the enlarged uterus, the distended bladder, in hemorrhages, in congestion of the capillaries, etc. 1t is calculated not only to contract the muscular fibre of the prostate, but also its capillary vessels primarily, and also secondarily, as a consequence of muscular contraction, and thus diminish the size as well as the nutrition of the gland. It is likely to accomplish this not only in mere hypertrophy, but also in enlargement from myomatous growths, in the same way as it does in fibroids of the uterus. At the same time that the size of the organ would be lessened and the mechanical obstruction be removed, the power of the bladder would be augmented by the same agent, and the urine is thus expelled without the aid of the catheter.

I may reduce these views to the three following proposi-

tions :-

1. That the prostate and its vessels are possessed of unstriped muscular fibre.

2. That the bladder is a hollow organ, with an involuntary

muscular coat.

3. That ergot will contract unstriped or involuntary muscular tissue, as it does in the uterus.

Therefore, as a corollary, ergot ought to be a remedy for

enlarged prostate and its effects.

This was the theory on which I based the practice, and whether the rationale is correct or not, my experience in the use of ergot in such cases had been most satisfactory. Several patients over sixty years of age have been treated with ergot, and have been able to lay aside the catheter after having been the victims of its daily use. When called to a case of retention from enlarged prostate, my rule is first to relieve the bladder by means of the catheter, and follow this immediately by ordering twenty drops of the fluid extract of ergot every four hours, until the patient gets entire control over his bladder. Until this is accomplished, I continue to relieve him with the catheter every twelve hours. As his power of urination is restored I diminish the frequency of the medicine, and gradually end in giving a dose every night. A gentleman who died last month, at the age of ninety-two, was exceedingly ill in August, 1872, in consequence of retention of urine from enlarged prostate, and had to be regularly catheterized for relief. He was placed upon the above treatment, and in a few days was able to do without his catheter. His urinary organs were kept in a good condition by taking a dose of ergot every night, and he enjoyed much better health in consequence, and died recently of old age. I mention this case in particular, because a postmortem examination proved to me that the prostate had been diminished in size by the treatment.

In these cases it is very common for sedimentary deposits to accumulate in the bladder, which becomes a source of irritation and discomfort, and if the organ should fail to expel its contents entirely, it is best every few days to introduce the catheter to remove them.

#### ON SO-CALLED MILK FEVER.

At a meeting of the Obstetrical Society of Dublin, in March, Dr. Macan read a paper on this subject, in which he gave an exhaustive résumé of the theories held regarding the etiology of milk fever from the time of Willis, who attributed it to the accumulation in the blood of easily fermentable menstrual particles, which had failed to escape as milk from the breast, or as lochia from the uterus. The term "milk fever" was, he said, of great antiquity. But, in these days of critical investigation and general skepticism, the propriety of the term, nay, even the existence of any such disease, had been called in question. His conclusions on the subject were the result of therometric observation of 423 pregnant women in the Rotunda Hospital. In 114 of these, the rise in temperature during the whole period of observation never exceeded one degree Fahr. And, if Wunderlich's fever limit of 100.4 degrees Fahr. be accepted, there were 196 cases in which the temperature never rose to fever height. In 32 cases, the only cause for a rise in temperature was a painful condition of the breasts. In many of these the fever lasted over twenty-four hours, the longest duration being five days. The temperature was often greatly out of proportion to the pulse: temperature 104.4 degrees Fahr., with pulse 108, or temperature 103.5 degrees Fabr., with pulse 92, as occurred in two of Dr. Macan's cases. In septic infection, on the other hand, the pulse was too quick for the temperature. The difference was important from a diagnostic point of view. The conclusions which he drew from his statistics may thus be briefly stated :- 1. No rise in temperature necessarily accompanied the first secretion of milk. 2. Pain and distention of the breasts might cause fever, but it was different from the so-called milk fever; the latter seldom lasted twenty-four hours, while the former, coming on some days sooner, often did. 3. In the fever due to distention of the breasts, the pulse was sometimes slower than the temperature would lead us to expect. 4. In cases of fever the mere presence of full breasts was not sufficient justification for at once concluding that no serious puerperal affection was present.

TREATMENT OF GOITRE BY INTERSTITIAL INJECTIONS.

In an article published in the Annales des maladies du larynx

et des oreilles, M. Cazalis reviews the different modes of treating gotire, and especially the method of Lutton. This method, more especially applicable to parenchymatous and fibrous goitres, consists in carrying the iodine to the very heart of the tumor. By this means Dr. Lutton has frequently obtained cures in cases rebellious to medical treatment. The ordinary hypodermic syringe is used, but a gilt or nickle-plated one is preferred, and the piston must fit accurately to overcome the resistance the liquid sometimes meets with the gland. Either the official tineture of iodine may be employed, as used by Lutton, in doses of one gramme to five grammes, or the ioduretted solution of iodine of Bertin, in doses from fifteen drops to forty drops. The needle of the syringe should be introduced about two or three centimetres, to insure the penetration of the fluid only into the gland. Lévéque advises the unscrewing of the syringe after the introduction of the needle, to ascertain, by the flow of blood, whether or not any important vessel has been entered. The dose of liquid is variable; Lutton employed from fifteen drops to four and five grammes. The subsequent symptoms vary with the strength and amount of solution used. Some solutions, or some small doses, cause only a sensation of uneasiness, or a slight pain in the region of the neck. Stronger injections give rise to pain radiating toward the chin and ears. Occasionally some inflammatory symptoms may be observed, the pulse and temperature rise, the neck swells and becomes tense, but the inflammation usually subsides by the second or third day, and there is felt within the substance of the gland a hard nodule about the size of a pigeon's egg, which contracts little by little and diminishes with the gland. Heller, to reduce the pain and irritation, added fifteen milligrammes of the sulphate of morphia to his injection. Suppuration is rare, but is to be feared if too large an injection, or too caustic a solution has been used, or if the liquid escapes into the surrounding cellular tissue. This method usually gives more rapid results than the medical treatment, but several months are sometimes necessary to obtain these well defined results. Morell Mackenzie, who has had a large experience of this plan, repeats the injection about every ten days. Lutton met with but one case he could not treat by this plan; that was a vascular goitre. Mackenzie, out of seventy-three cases treated in this manner, cured fifty-nine, diminished the size in nine, got no results in three, and two patients gave up treatment.-Journal de Médecine, and The Medical Record, February 23, 1878.

## SPONGE TENT IN THE UTERUS THREE MONTHS.

Read before the San Francisco Medical Society, by O. Hoff, M:D.

A lady, aged thirty-one years, residing in the country, married, mother of two children, in good health, became pregnant

about the first of July, and on the eighteenth of August consulted an abortionist of this city, who introduced a sponge tent for the purpose of producing abortion. He then advised her to return to her home immediately, and directed her to remove the tent on the third day, if in pain. Not having any pain, on the evening of the third day she concluded to remove it, but when she made the attempt she was unable to find it. The next day she returned to the abortionist, who, after diligent

search for the tent, told her it had fallen out.

The woman returned home, and on the next day a few pains come on, which resulted in the expulsion of several clots, or something resembling a small placenta. An offensive, bloody discharge now commenced, for which she consulted me on or about October 1st. I found the discharge very profuse and offensive, and of the consistency and color of prepared chocolate. It was so profuse that she was compelled to use half a dozen napkins daily. I prescribed a mixture of iron, strychnia, and fluid ext, ergot, by mouth, and a uterine injection of per-mang. of potash, three grains to the ounce of water, repeated every six hours. No improvement following, I gave quinia and iron internally, ordering a generous diet, with daily exercise in the open air.

I saw her again in about a week. The discharge was more profuse and offensive than ever. Ordered the treatment continued. Her menses came on on the following day, and continued about a week. After this she became greatly discouraged. I now ordered a uterine injection of one drachm of liq. ferri subsulph. in a pint of hot water, three times a day. Also, milk punch morning and evening, with a continuation of the tonics.

Three weeks afterwards the menses again came on, lasting only a few days. Perceiving no improvement, she grew more despondent than ever, complained of a loss of appetite, with a dry cough and night sweats. She was becoming emaciated. Feeling somewhat alarmed at her condition, I determined to make a careful examination of the uterus. Proceeding to do this on the twenty fifth of November last, I found the offensive discharge oozing from the os, which was of the usual size, and had a healthy appearance. The introduction of the sound showed the interior surface of the organ to be quite sensitive, though the cavity was of normal size. With my finger in the rectum, I could feel no nodule or tumefaction of any kind, nor did the walls of the uterus appear to be thickened.

I now introduced a sponge tent of small size, and eight hours afterwards removed it and introduced a second, which remained all night; then a third one in the morning and a fourth in the evening. On the following morning I was able to introduce the finger into the cavity of the uterus, were I found some foreign body resting against the upper opening of the internal os, which proved to be the sponge which had been introduced

by the abortionist more than three months previously. It was easily removed by a small pair of uterine forceps. It was neither imbedded in nor attached to the mucous membrane, as is sometimes the case. After its removal, I introduced a long, flexible tube, and with a Davidson's syringe washed out the cavity with a pint of warm carbolic acid solution, which I had prepared for the purpose, in the proportion of one part of acid to thirty-two of water. Injections of warm water were continued for several days. Three months afterwards I examined the patient, and am happy to say she was entirely well.

[The tent was exhibited to the society.]

#### HYPODERMIC USE OF DIALYSED IRON.

Professor Da Costa, of Philadelphia, has employed iron hypodermically, in the dialysed form, with excellent results, and through him the attention of the profession has been called to the subject with much interest. Properly prepared, the liquid is perfectly neutral, but it appears by an analysis of a number of specimens from different pharmacists, that some of the preparations are not worthy of confidence in this respect. Thus far Wyeth's preparation has proved to be what it professes. Da Costa recommends it without qualification. Some other specimens contained hydrochloric acid and muriate of ammonia in sufficient quantity to conflict with their use hypodermically. We do not desire to disparage other preparations than that of Wyeth, but to advise the necessity of caution in selecting a pure article.

# REVIEWS AND BOOK NOTICES.

Materia Medica, for the use of students. By John B. Biddle, M.D., Professor of Materia Medica and General Therapeutics in Jefferson Medical College, etc. etc. Philalelphia: Lindsay and Blakiston; New Orleans: Crescent Book Subscription House. pp. 462. Price, \$4.00

This valuable work, published by Messrs. Lindsay and Blakiston of Philadelphia, has reached its eighth edition, has been thoroughly revised and enlarged, and now comprises 432 pages of interesting reading matter, appropriately illustrated. After a careful examination of its contents, we find much that recommends it as a text-book for students, for which, as the author states, it is intended, and also that entitles it to the confidence of the general practitioner. It is nicely bound in morocco, type unusually good, the general style of the volume excellent, while the clear and concise manner with which the

author treats each individual subject, constitutes it an acceptable addition to our stock of medical literature.

All agents employed in the treatment of disease are first divided into hygienic, mechanical, imponderable and pharmacological.

Leaving those included under the head of hygienic to be considered by works specially devoted to this subject, he then treats of those included under the term mechanical, chiefly belonging to surgery, comprising blood-letting, setons, issues, bandages, frictions, &c.; thirdly the imponderable, such as light, heat and electricity; and lastly the pharmacological agents (not essentially alimentary)—those which, when applied to the body, so alter or modify its vital functions as to render them applicable in the treatment of disease.

- 1. As to the source from which they are derived.
- 2. Mode of preparation for shipment.
- 3. Sensible properties, chemical composition and relation.
- 4. Physiological effect in healthy individuals.
- 5. Therapeutical effect in morbid states of the system.
- 6. Preparations, dose and mode of administering.

The articles on the modus operandi of medicines and the circumstances which modify their action, although occupying less than three pages, embrace the results of the latest researches on this important subject, carefully, and as much as possible, free from perplexing speculation. The forms in which medicines are administered, and the parts of the body to which they are applied, are next fully and very satisfactorily considered. As regards the great question of the classification of medicines, while the plans and preferences of different authors have already resulted in a multiplicity of classification more or less complete, some classifying them according to their natural properties, others according to their action on the human system, Prof. Biddle, considering that plan most desirable and useful which is founded on a similarity of their action on the animal economy, this, imperfect however, first because of the diversified effect of medicines, and secondly our ignorance of the real nature of the modifications which they produce in the tissues, and yet some arrangement into classification being

necessary, has divided medicines into four distinct classes and these sub-divided into orders as follows:

CLASS 1. Those which have a special action on the nervous system (neurotics).

- Order 1.—Narcotics—Opium, chloral, belladonna, stramonium, lobelia, hyoscyamus, tabacum, conium, aconite, cannabis indica, physostigma, cocculus, woorara, camphora, etc.
- Order 2.—Anæsthetics—Æther, chloroform, rhigolene, bichloride of methylene, methylic æther, compounds of amyl, etc.
- Order 3.—Antispasmodics—Asafætida, galbanum, thea, valeriana, caffea, ammoniacum, moschus, etc.
- Order 4.—Tonics—Quassia, gentiana, simaruba, calumba, serpentaria, anthemis, eupatorium, cascarilla, cinchona, quinia, eucalyptus, iron, zinc, bismuth, mineral acids, etc.
- Order 5.—Astringents—Gallic and tannic acids, catechu, kino, krameria, uva ursi, plumbum, alumen, etc.
- Order 6.—Stimulants—Alcohol, vinum, arnica, ammonia, phosphorus, capsicum, piper, zingiber, vanilla, etc.
- Order 7.—Sedatives—Digitalis, veratrum, gelsemium, potas. nitras et citras, spirits ether. nitrici, antimonium, etc.
- Order 8.—Spinants—Nux vomica, strychnia, ignatia, ergot, gossypii radicis cortex, toxicodendron, etc.

CLASS 2.—Those which have a special action on the secretions (or eccritics).

- Order 1.—Emetics—Ipecacuan, sanguinaria, sinapis and the mineral emetics.
- Order 2.—Cathartics—Tamarindus, manna, oleum olivæ, oleum ricini, sulphur, magnesia, sodii sulph. Also potassium, rheum, senna, jalapa, podophyllum, scammonium, elaterium, oleum tiglii, etc.

Order 3.—Diaphoretics—Jaborandi, sarsaparilla, guaiaci lignum et resina.

- Order 4.—Diuretics—Potas. acet., sodii acet., scilla, colchicum, erigeron, juniperus, cantharis, etc.
- Order 5.—Blenorrhetics—Senega, cimicifuga, allium, scilla, terebinthina, pix liquida, copaiba, cubeba, buchu.

Order 6.-Emmenagogues-Sabina, ruta, rubia.

CLASS 3.—Those which modify the blood (hæmatics).

Order 1.—Hæmatinics—Preparations of iron.

Order 2.—Alteratives—Hydrargyri præparata, iodinium, brominium, oleum morrhuæ, arsenicum, chlorinum, hypophosphites, ammonium, potassium, etc.

Order 3.—Antacids—Preparations of potassium, sodium, lithium, ammonium, magnesium, calcium, etc.

CLASS 4.—Those which act topically.

Order 1.—Irritants—Sinapis, capsicum, oleum terebinthinæ, pix canadensis, cantharis, ammonia, oleum tiglii, ung. antimonii, potassa, argenti nitras, acidum chromicum, acidum arseniosum.

Order 2.—Demulcents—Aqua, acacia, tragacantha, linum, ulmus, althea, glycyrrhiza, sago, gelatina, adeps, cera, glycerina, collodium, mel, etc.

Order 3.—Coloring Agents—Crocus, santalum, coccus.

Order 4.—Anthelmintics—Spigelia, chenopodium, santonica, mucuna, filix mas, calomel, granati radicis cortex, oleum terebinthinæ, pepo, etc.

Beginning with opium, as the first drug mentioned in class 1, order 1, this subject is ably considered, according to the plan originally mentioned. Much attention is bestowed on its physiological action, its mode of administration, its uses, etc.; likewise the other remedies mentioned in this order, and so on for each class and order in regular succession.

As a whole, the work is one deserving of special consideration, characterized as it is in every particular by brevity, yet thorough and complete.

J. M. W.

Handbook of Ophthalmology. By Prof. C. Schweigger, of the University of Berlin. Translated from the third German edition. By Porter Farley, M. D., Rochester, N. Y. pp. 555. Philadelphia: J. B. Lippincott & Co; New Orleans: Crescent Book Subscription House.

This is one of the numerous treatises on diseases of the eye,

which have been laid before the profession during the last twelve or fifteen years, all of which present with more or less ability the general views of specialists at home and abroad with regard to eye affections.

This work, the latest of the series, by the distinguish Berlin professor, though not so elaborate as those of Wells and Stellwag, will compare favorably with the best; and contains much new material, which the others do not. At the same time, it possesses the merit of being better adapted, as its name implies, for the use of the beginner, the student, than any other that we are acquainted with: those of Wells and Stellwag being intended rather for the young practitioner than for the young student of medicine.

The first fourth of the "Handbook" is devoted to the physiology, and to the explanation of the refraction and accommodation of the eye; and being carefully composed and skillfully translated, the beginner will find but little difficulty (provided he has already mastered the anatomy of the organ) in comprehending those hitherto obscure and complicated subjects. Of course, the author relies entirely upon the great work of Professor Donders for the information contained in this chapter. We only regret that his work has not been made more complete by the addition of an equally clear account of the anatomical structure of the eye, to acquire a knowledge of which the student will be compelled to look elsewhere.

The remaining three-fourths of the book are devoted to the consideration of the various *diseases* of the organs of vision, the description of which is clearly and succinctly made; while the treatment is methodically explained according to the latest and best authorities.

In this connection, however, there is one very objectionable feature to be noticed, but one which is also found in all other treatises of this kind, viz: in speaking of the various remedies for the external diseases of the eye, such as the numerous forms of conjunctivitis, granular ophthalmia, both accute and chronic, blepharitis and other diseases of the lids, the author frequently mentions and recommends the use of preparations of *lead*; without at the same time explicitly laying down the

law governing their use and the precautions necessary to be noted. Nothing is more common than for the oculist to meet with cases that have been permanently damaged, or even totally destroyed, by the improper use of this drug; and that too in the hands of otherwise careful and experienced physicians, who, in treating these cases, neglected to minutely examine the condition of the cornea, upon which at that very time abrasions or ulcers existed; the combination of the lead with the exposed tissues of the membrane resulting in the immediate formation of indelible leucomata. It seems to us that the author of a Handbook of Ophthalmology designed for the use of medical students and young graduates should be very careful and explicit in such matters; so that these beginners may not fall into the fatal mistake of using lead washes where there is any likelihood of the cornea being implicated.

The work is neatly gotten up, is printed in clear large type, and is illustrated with numerous wood cuts.

The Action of Medicines. By Isaac Ott, A.M., M.D. Formerly Demonstrator of Experimental Physiology, University of Pennsylvania. With twenty-two illustrations. Philadelphia: Lindsay & Blakiston; New Orleans: Crescent Book Subscription House. pp. 164. Price, \$2.00.

There is no doubt that the correct appreciation of therapeutic agents depends upon the closest scrutiny into their action, determined by experiments upon men and lower animals. At the same time the differences of physiological development must be taken into consideration, in order to avoid mistakes naturally arising from idiosyncrasy and temperament.

Thorough investigation of the action of agents employed in medicine is especially needed to correct the rapidly growing scepticism now apparent, for only with exact knowledge can therapeutics be appreciated.

Dr. Ott, in the work before us, has paved the way for future and more complete studies on this subject. The book is evidently intended as a text-book for experimentors. The greater part of it is devoted to details of the manner of 10

conducting the experiments and the animals best adapted for studying the action of individual remedies.

The work is divided into four chapters:

- I. How to study the Physiological Action of Medicines.
- II. Action on Nervous System.
- III. Action on Circulatory Apparatus.
- IV. Action of Medicines.

The last chapter is calculated to be of service to the general practitioner. It contains the "action on lower animals," "on man" and "action on disease" of such agents as tartar emetic, veratrum viride, veratria, aconite, digitalis, alcohol, strychnia, gelsemium, chloral hydrate, belladonna, electricity, etc.

The painstaking author deserves the thanks of the profession, and we believe his labors will be appreciated by the earnest workers in medicine. The publishers have spared no pains in presenting the work in admirable form.

(1.) The Metric System. By Hngh Hamilton, M. D., read before the Medical Society of the State of Pennsylvania, 1877.

- (2.) The Adoption of the Metric System, by the U. S. Marine Hospital Service for purveying medicines, and for other official medical purposes; together with rules for converting terms of the U. S. Apothecaries' Weights and Measures into their respective equivalents in terms of the Metric System; and suggestions for writing Metric Medical Prescriptions. 1878.
- (3.) The Metric System in a Nut-shell. By Edward Wigglesworth, M. D.

The first of these little pamphlets contains a description of the metric system and some arguments in favor of its adoption. It might seem that the country where the decimal system of currency originated would not be found behindhand in extending the same to weights and measures in general use, but the inherent conservatism of the Anglo Saxon element in our people characteristically manifests its inertia as an obstacle to progress. The legalization of the new system in both England and the United States is a concession of its merits, but is no more than "faith without works," which, out of its theological sense, does not amount to much. The promulgation and

adoption of the system by the Marine Hospital Service looks like "business," and it is to be hoped that the Medical Department of the Army and Navy will not long delay to follow the lead. We might then look to see it adopted in the pharmacopæia of our country, at first along with the old denominations, or with rules for coverting the latter into terms of the former; so that gradually, but rapidly, the new would supersede the old.

We apprehend that very few members of our profession deny the advantages of a system so marked by simplicity, uniformity and exactness, or would refuse to cooperate in any practicable method for bringing it into general use. Here lies the whole difficulty of the matter—to devise a plan of adoption not so violent as to provoke the hostility of the elder members of the profession. It is probable that medical men will before long follow the example of scientific men, in using the metrical system, and that we shall precede the general public. The force of discipline in the Army and Navy would make the change comparatively easy, and there should be no delay of action there. At the next revision of our national pharmacopæia the question ought certainly to be raised, and some plan be devised for bringing about the change demanded alike by good sense and the progressive spirit of our age.

S. S. H.

# EDITORIAL.

#### EDITORIAL CHANGE.

DR. PRATT has been compelled to ask the withdrawal of his name as a co-editor in consequence of a very serious inflammation of one of his eyes. We regret the misfortune which deprives us of and efficient and agreeable associate. His place is supplied by Dr. S. S. Herrick. This gentleman requires no introduction to our readers. We felicitate them upon the acquisition of a spirited writer and accurate observer, but as for the senior co-editors, the change will require an elongation of stride that they may not lose step.

# THE CATALOGUE OF PUBLICATIONS IN THE NATIONAL MEDICAL LIBRARY.

It is known to our readers that the bill authorizing the publication of this catalogue, and appropriating the funds necessary for that purpose, failed to pass the last Congress. The object is one too important to medical interests throughout the United States, or the civilized world for that matter, to be permitted to drop because of the failure of one Congress to make suitable provisions for its execution. Physicians, wherever situated, should improve every opportunity to inform their Congressional representatives in regard to the nature of the publication, and of its immense value to the profession, in order that when the question is again presented, they may act with a full knowledge of all the facts before them.

The following extracts from a telegram to the New York Tribune of July 8th, will furnish a brief, but clear text, of such facts as should be employed in our efforts to influence Congress to accord us the legislation which we ask for.

Speaking of the character of the work, the Tribune telegram is as follows:

"This catalogue is to be much more than its name indicates. It is rather an alphabetical classification by names of titles of all diseases, wounds and affections to which human flesh is subject, all known remedies, theories of treatment, and descriptions of special cases, giving at the same time the names of authors who have written upon medical subjects, and of the books and the numbers of the pages in which such matters are treated.

"In short, it will be when finished a complete descriptive index to nearly everything which has ever been written upon any subject, in any language, which has a professional interest for medical men. This is perhaps an overstatement in one respect, for the catalogue will not contain references to any book of which the National Medical Library does not contain a copy, but as this library is now thought to be the largest medical library in the world, a complete catalogue of it will be for all practical purposes a universal index of medical literature.

"The catalogue will form a series of seven or eight volumes, each about the size of Webster's Unabridged Dictionary. Should Congress authorize its publication, it is proposed to distribute sets of this work to the medical and circulating libraries in all the large cities of the country, where they can

be consulted by any physician who, having a special and uncommon case for treatment, may wish to know what has been written upon other cases of the same character, and where such writing may be found. Congress, at the last session, was asked to authorize the publication of an edition of 10,000 copies, at an expense of \$200,000, for distribution as mentioned above and for sale at the cost price of paper and printing to physicians who should wish to have copies in their own libraries. In support of this request a memorial was presented to Congress from a committee of physicians appointed for the purpose by the Medical Society of the County of New York. Its conclud-

ing paragraph is as follows:

"The Surgeon-General of the United States has prepared a subject catalogue, a specimen fusciculus of which has been hailed with unprecedented praise by the medical press of the United States and of all Europe, particularly of England and Germany. This subject catalogue will by its publication place the buried wealth of the medical literature of all countries at the easy and ready disposal of scientific workers. The completion of this great work is a necessity for the medical profession of the United States, and for the healthy development of medical culture of this and all countries. It will rank amongst the most practical and beneficial publications of the present period."

#### YELLOW FEVER.

We regret to chronicle the fact that this disease has appeared in our city. At this time we are not able to give our readers information authoritative in its character, which will explain the origin of the present outbreak. The medical profession of this city, whose general high cultivation and great experience give indisputable title to its opinions, entertain in the aggregate, two various theories with regard to the origin of yellow fever here. We mention these theories in the order, which we assume to represent their precedence as its respects advocates in our profession.

1st. (a.) Yellow Fever is not indigenous here, but is always imported.

(b.) Yellow Fever is not indigenous here, but is imported, yet the germs may live through a mild winter, or under circumstances which protect them from cold for an undetermined period of time, and be awakened to active virulence when exposed to conditions favoring their growth.

2d. This city is located in the yellow fever zone [a most indefinite expression] and therefore its *de-noro* origin should not surprise us.

The wisest of all our medical faculty is not able to declare and make manifest by scientific exposition, the absolute truth in regard to all or either of these various theories.

One thing, however, should be said with respect to the 2nd theory. We may say of all the indigenous cases, that they never occur, except under circumstances, where by a human possibility, germs might have been transported in some manner unknown to the scientific observer. This is placing them in the same category as the St. Kilda cholera outbreak, probably to remain forever an unexplainable mystery.

The first cases reported to the Board of Health occurred during the second week in July, on Constance street, near Robin. This is a clean portion of the city, occupied for the most part by clerks and men living upon salaries, and engaged during the day in various portions of the city. It might be said that some of these persons picked up the poison aboard a ship, or elsewhere in the pursuance of their business avocations, but it is a singular fact that the first cases were for the most part children of such immature years that they seldom went abroad and never near the shipping in port. These facts then, seem to favor the idea that the present outbreak was of indigenous origin. On the other hand some of our physicians attribute the presence of yellow fever at this time, to the action of germs imported by the Emily Souder some six weeks prior to the report of the first case. While we are certainly not prepared to produce facts which will negative this hypothesis, it appears to us quite different from the mode of action usual to yellow fever germs. We do not ordinarily expect them to remain a month inactive, under atmospheric and telluric conditions continuously as favorable, as at the moment when they manifest such terrible virulence.

In the meantime, we are able to say to our readers, that all the facts and circumstances attendant upon this outbreak, are being closely sifted, and we will not fail to give them the benefit of anything important which shall be developed. The Board of Health are actively engaged in efforts to stampout the disease by disinfection. The agent relied upon is carbolic acid, whose range of destructive action upon insect life and minute organisms, is unquestionably greater than that of any other available means. We are even yet, after some years of apparently gratifying trial and results, obliged to admit that our whole plan of disinfection is an experiment. Still it is an experiment which has given us hopes and encouragement to such an extent that we should feel it our duty to pursue it until we reach a crucial test.

If during the present outbreak, efforts at disinfection appear less instantly productive of good, than in former years, although applied with equal zeal and judgment, there are circumstances which may seem to explain this apparent failure; first, the worst centre of prevalence of the disease is now in a very insanitary portion of the city—Girod and Front and Tchoupitoulas streets. Here are a number of boarding-houses, occupied and frequented by a population who neither understand, nor observe any sanitary regulations.

Again, it appears to us a very probable thing that the frequent washing showers which occur, interfere with efforts to disinfect the surroundings of infected houses. The more one studies the mode of progress of the yellow fever poison in epidemic visitations, the more likely he is to adopt the belief that it creeps along the surface of solid substances-probably by gradual growth and accretion. In no other manner can we account for its steady, deliberate progress whether along with, or against atmospheric currents. Nor can we by any other hypothesis, so readily explain why it is that the disease is rarely communicable, except within the fatal circle of an infected locality. It is probable that the surface of the soil and street is either a breeding place, or an area of portage, and that the rains dilute or wash the disinfectant away before it has accomplished the designed end, or as much in that direction as it is capable of achieving-

## No. 3. OFFICE SURGEON GENERAL, U. S. M. H. S., Washington, July 27, 1878.

Abstract of sanitary reports received during the past week under the National Quarantine Act:—

New Orleans:—About the 12th inst. cases of yellow fever began to occur in New Orleans, at first they were at one focus of infection, only, but others soon appeared at different points, and up to yesterday evening 37 cases and 17 deaths had been reported to the State Board of Health. So far the Board have been unable to trace the outbreak to foreign source. Carbolic acid disinfection is being vigorously carried out at all infected points, and the remarkable success which has attended the efforts of the Board in this direction in the past few years, gives hope of preventing the outbreak from assuming epidemic proportions. Three or four persons from New Orleans have died of yellow fever at points above that place on the Mississippi.

Brooklyn:—No new cases at Navy Yard since last Saturday's report.

Key West:—From 10th inst. to noon to-day six new cases of yellow fever in the harbor and three in the city have occurred.

Havana:—During week ended July 13, there were 97 deaths from yellow fever and 22 from small pox.

Matanzas:—Advices to 19th show increased cases, and increased ratio of deaths.

Japan:—Occasional cases of cholcra during winter and spring to June 19th, 1878, at Yokohoma and vicinity show the poison of the disease has survived the winter. The epidemic of last September, October and November extended to all parts of the Empire with a mortality of 7,967 out of a total of 19,710 cases, or 581 deaths to 1000 cases. No means yet instituted in Japan to prevent importation of the disease from China where it exists and where the famine furnishes most favorable conditions for its re-appearance in a more malignant form.\*

Calcutta:—22 deaths from cholera during week ended May 25.

Bombay:—29 deaths from cholera during week ended May 28.

Reports received from other places indicate good health.

#### JNO. M. WOODWORTH,

Surgeon General,

U. S. Marine Hospital Service.

<sup>\*</sup>Dr. D. B. Simmons, Chairman, Health Board, Yokehoma, etc.

# METEOROLOGICAL REPORT FOR JUNE, 1878.

Day of Month.	Maximum.	Minimi Mi	RE.	Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches.
f Month	ximum.	um.		in .	-ig	(2)
f Mo	ximum	um.		0 2	u.	Inc
\$	ximu	= =		Baroi Daily.	Ive Hur Daily.	
	×	a	e.		tiv	fal
ay	ಡ	ini	Range.	Mean	ela	ain
A	7	Z	24	X	R	R
1	88	74	14	29.985	67.0	.00
3	90	74	16	29.926	64.3	.0()
	87	75	12	29.978	70.7	.01
4	88	75	13	30.011	68.3	.00
5	91	75	16	30.011	65.7	.04
6	88	74	14	29.949	66.7	.00
7	89	75	14	29.938	66.7	.00
8	87	76	11	29.822	74.3	.00
9	86	75	11	29.822	80.7	.73
10	89	75	14	29.932	88.0	.71
11	82	71	11	30.018	69.3	.34
12	84	74	10	29.964	80.7	.00
13	88	76	12	30.005	79.0	.76
14 15	88	78	10	29.975	80.7	.01
16	88 85	74 75	14 10	29.886 29.842	79.7	.72
17	90	77	23	29.842	84.0 77.6	.03
18	91	77	14	29.910	75.3	.00
19	91	78	13	29.876	64.6	.00
20	90	78	12	29.859	57.4	.00
21	92	78	14	29.833	59.3	.02
13.)	87	77	10	29.947	49.3	.00
22 23	88	74	14	30.022	57.0	.00
24	89	74	15	30.013	63.0	.00
25	87	74	13	29.995	63.0	.00
26	89	73	16	30.064	73.3	.76
27	89	75	14	30.098	71.7	1.65
28	88	76	12	30.047	81.3	.00
29	86	75	11	30.032	80.3	1.35
30	88	75	13	30.001	78.7	.04
						.01
						Total:
Mean.	88.1	75.23	13.6	29.625	79.3	7.17

MORTALITY IN NEW ORLEANS FROM JUNE 23 TO JULY 28, 1878, INCLUSIVE.

Week Ending.	Yellow Fever.		Consumption.	Small- pox.	Pneu- monia.	Total Mortality.
June 30	()	8	24	0	4	105
July 7	0	4	20	1	2	96
" 14	0	14	17	1	4	129
« 21	0	19	16	2	4	111
" 28	26	10	16	1	2	156
						1
Totals	26	55	93	5	16	597

THE

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

# SEPTEMBER, 1878.

# ORIGINAL COMMUNICATIONS.

### PARACENTESIS THORACIS.

By S. LOGAN, M. D.,

Professor of Anatomy and Clinical Surgery in the University of Louisiana, &c., &c.
(Read before the New Orleans Medical and Surgical Association, July 6th, 1878.)

Since Dieulafoy awakened renewed attention to the method of pneumatic aspiration for the removal of fluid accumulations in the tissues and cavities of the body—a plan really first practiced and published by Bowditch, of Boston—and since Trousseau has been so generally read, the question of the proper treatment of hydro-thorax, pneumo-hydro-thorax and pyo-thorax (or empyema), has elicited considerable discussion. Nor can we say that definite and generally acknowledged conclusions have yet been reached by the profession.

If we were to listen to the dicta of some of our statistically inclined brethren, whose columns of figures run up into the thousands, we would be obliged to discard all operative procedures and rely exclusively on the Materia Medica of the Therapeutisian and the frequently very clumsy surgery of the Vis Chirurgica Nature. On the other hand, did we allow

ourselves to be guided by the statistical deductions of others—notably M. Dieulafoy—we would hardly approach the bedside of a case of pleurisy without an aspirator under our arm.

The most extensive and at the same time the most elaborately arranged statistical tables, which I have examined, are those published in the British Medical Journal of November 24th, 1877, in an article from the pen of Dr. Wilson Fox, of University College, London. He first gives us one table, "Showing the Mortality per cent. of all cases of pleurisy in different Hospitals" on the continent as well as in Great Britain. This table includes some 13,000 cases. The mean total mortality he estimates as from 10 to 17 per cent. It must be borne in mind that all these were hospital cases, presumably, therefore, coming from less favorable surroundings. The apparently rather high mortality is probably due to this fact.

Dr. Wilson Fox's second table, comprising 2630 cases, is intended to show the "Relative Mortality of Complicated and Uncomplicated Pleurisy;" the mortality in uncomplicated cases ranging from 3 to 7 per cent., while, if I understand the rather obscure paper, the percentage of deaths in the complicated cases ran up to 36.

In the third table is represented, according to the same compiler, the "results of paracentesis in pleurisy" and the mortality percentage is affirmed to "reach as a mean of operations, to 27 per cent., and only falling to or below 10 per cent. in the hands of observers, the large proportions of whose observations have been confined to serous effusions in the early stage, while in others it has ranged as high as 52 to 45 per cent." But he very appropriately adds: "This high mortality, taken both collectively and also in the experience of individual observers, is undoubtedly due in many instances to the nature and to the severity of the cases and of their complications."

Herein truly resides the difficulty in attempting to reach a satisfactory solution of this subject through the statistical method. The cases of thoracic accumulations present such a vast difference in the nature of the cause producing them, in the character of the fluid, in the circumstances of the subject,

before, during and after treatment; in the previous or supervening complications, etc., etc., as to render it impossible to draw safe conclusions even with the most careful analysis of the cases. I will not, therefore, trouble you with further statistical details and have only given this summary of the statistical details and have only given this summary of the statistics collected by Dr. Fox as a fair sample of many others. Of course we must expect that the "cases operated on" will always present a higher percentage of mortality. The very fact that they have seemed to demand operative procedure is the very best evidence of their graver character.

After the most careful study of all the statistics which can be found the physician or surgeon, when brought face to face with a serious case of thoracic effusion, must in the end decide for himself in each case on its individual merits, the important question as to whether he should resort to surgical measures of relief.

To inform his judgment for such an emergency he must of course bear in mind the various pathological conditions present as well as their immediate or remote possible or probable tendencies and complications.

Thoracic accumulations are either purulent or non-purulent. It will be more convenient to consider the latter class first.

#### 1st.—NON-PURULENT THORACIC ACCUMULATIONS.

Of these again we have several sub-varieties not only in regard to the precise nature of the fluid, but in regard to the pathological processes on which the accumulation depends.

The following classification will answer our present purpose ·

- (a) Acute serous or sero-fibrinous hydro-thorax.
- (b) Chronic serous hydro-thorax.
- (c) Sero-sanguineous hydro-thorax.
- (d) Pneumo-hydro-thorax.

In regard to the applicability of thoracentesis in any of its methods to the first of these sub-divisions, or acute serous and sero-fibrinous hydro-thorax, I will have but little to say. All agree that the operation is but seldom needed in such cases. The treatment for the active pleurisy is all that is usually required. Absorption generally takes up the fluid as the inflammation

subsides; or if this process be tardy, counter irritation, iodine applications, and in some cases iodide of potassium and mercury, separately or combined, will usually suffice.

Should the accumulation increase so rapidly, however, as by its pressure to endanger the life of the patient by suffocation, then I need hardly say that the fluid should be removed. The best method of doing so will be considered further on.

#### 2d.—CHRONIC SEROUS HYDRO-THORAX.

There are several varieties of this form of hydro-thorax, mostly due to the cause producing the accumulation.

In the first place it may result from a chronic or passive form of pleuritis—what Dr. T. Clifford Allbutt designates as "quiet effusive pleurisy." The symptoms of the inflammatory precedents or concomitants may readily escape detection, the fever being slight and the symptoms not at all distressing. The patient perhaps only complains of feeling badly in the evening, and the thermometer shows a degree or two of increased temperature as night comes on. Sometimes the accumulation is so gradual that dyspnæa is not complained of till a quantity of fluid sufficient even to endanger life has already been effused.

It is in the application of the operation to such cases that there seems to be the greatest discord among the authorities. On the one hand we find those who affirm that the resort to tapping should be confined to those cases in which the patient is on the verge of suffocation as a dernier resort to ward off the impending death; while on the other hand a larger, and I think increasing number, advise the removal of the fluid as a therapeutic means to anticipate in due time this very danger.

Those who refrain from operating till driven to resort to the trocar by the urgency of the symptons are apt to dwell on the alleged danger incident as they contend to the operation; while their opponents insist on the danger of a sudden and fatal increase of the fluid in the absence of the attendants and on the injurious effects incident to the continued presence of the fluid in large quantities.

Let us then examine the ground on which each party stands.

In the first place what are the dangers asserted to be incident to the removal of a large quantity of fluid from the pleural cavity, and to what degree may such danger, if admitted, be avoided?

Dr. W. Fox again presents us with an elaborate table "Showing the Causes of Mortality in Paracentesis of Serous Effusions in Pleurisy," which will aid us in this discussion. His table comprises 353 cases of operation for serous effusions with a mortality of 87, or 24 per cent., and the causes of death are given as follows: purulent transformation, 32; tubercles of lungs or elsewhere, 20; acute disease of lung or opposite pleura, 5; malignant disease, 3; grave general complications and miscellaneous, 11.

It seems to me that the heading of this table presents as good an example as can be found of begging the question. Can we really consider for example the deaths under the head of malignant disease as attributable to the paracentesis? The same question might be asked in regard to those under the head of "tuberculous" and those enumerated under "grave complications and miscellaneous."

It may, for the sake of argument, be admitted that some of the patients with these serious accompaniments of the hydrothorax may have had their term of life more or less shortened by the removal of the fluid, but surely it is simply a petitio principii to assert—either directly or by the phraseology of the heading of the table—that the operation was the "cause of the mortality" in all or even a majority of the cases.

The same criticism, only in perhaps a less positive form, may be applied to the deaths attributed to "purulent transformation" and to "acute disease of lung or opposite pleura."

What proof have we that these conditions were really brought about as a result of the operation? Is it not more reasonable to assume that the very fact that the cases seemed to demand the resort to operative procedings, is good evidence that they were of so grave a character as to tend of themselves to the development of serious complications of various kinds.

In regard to purulent transformation, also, we are inclined to agree with the eminent French teacher, Prof. Trousseau, and others, who assert that there is little evidence to connect said

transformation with the operation carefully performed, unless indeed in a very few instances. Perhaps a more extended investigation of the subject of the transformation of the serous into a purulent fluid may confirm the assertion recently made by M. Dieulafov. He states that in all cases of serous hydrothorax the fluid will contain some red blood corpuscles. If even perfectly devoid of color he finds from 1500 to 2000 red corpuscles to the cubic millemeter of fluid. If there be from 6000 to 7000 in the same quantity, he asserts that there is a great liability to purulent transformation, or even if the number exceeds 2500. But, besides these objections enumerated above by Dr. Fox, there are certain other asserted dangers which are worthy of a few moments discussion. Acute congestion of the lungs with albuminous expectoration, dyspnœa, etc., coming on immediately after the operation is one of these. This it is true, does sometimes occur; as, indeed, is admitted by all surgeons of experience. But in the first place may we not in many cases avoid this accident by a more gradual removal of the fluid, taking only a little at a time and watching the result; and in the second place may it not be true as affirmed by many that such cases as are specially liable to this danger are those complicated with serious troubles such as tuberculosis, etc? Dieulafov asserts that on investigating the circumstances of all the reported "examples of this class of accidents, I find that they have always been associated with either the immediate evacuation of a large quantity of liquid, or with pleurisies complicated with affections of the heart, bronchitis, tuberculosis, etc.; and the precept is to limit the quantity of liquid extracted at a time, and to proportion this to the complications which may exist."

In regard to this point I can give no personal evidence, as I have never seen this condition come on subsequent to the removal of thoracic fluid. Again, cases have been reported of sudden dangerous and even fatal syncope having been produced by the operation. These cases must certainly be very exceptional—provided the fluid be gradually removed. I have never had the accident to occur in either my own hands or in

my presence, and I do not think my experience is exceptionally small as compared with other hospital surgeons.

It must be remembered that sudden death occurs in some cases of large accumulation without any operative procedures. T. Clifford Allbutt reports three such cases as having fallen under his personal observation in one hospital. So it would seem that if this be one of the dangers belonging to paracentesis thoracis, it also appertains to the leaving the hydro-thorax unrelieved. The dislodgement of embola and consequent cerebral trouble, and asphyxia from pulmonary obstruction due to the same cause, have been mentioned as possible consequences of the movement of the heart and large vessels back to their normal positions as the displacing fluid is withdrawn. Possibly this may be one of the risks incident to the operation, but it too is surely so exceptional an occurrence as not to stand materially in the way of securing any undoubted benefits the operation may offer.

In the next place, then, let us enquire what dangers threaten the patient suffering from large fluid accumulations in the pleural cavities; and this injury will at the same time naturally lead to the consideration of the indications for operating for its removal.

We will leave out of consideration the smaller serous or serosanguineous collections, for no one has yet advocated their immediate removal, and all agree to let them alone, or first endeavor by other agencies to promote their absorption.

If a pleural cavity be full or nearly full of fluid, the lung is compressed; its functional activity is destroyed, and if the condition be allowed to continue its tissues become sodden with the fluid, and its ability to expand lessens with the length of time it remains subjected to this deleterious influence. If there still remain any tendency to chronic pleuritis, bands or layers of fibrinous effusions may be thrown out, become more or less organized, and tend to permanently imprison the lung, or parts of it, in its collapsed state. Here then is a serious element of danger in delaying the resort to operative measures.

Again, a patient, one of whose pleural cavities is distended with fluid is in constant danger of sudden death from a possi-

ble sudden increase of the fluid when surgical aid may not be at hand. Indeed sudden fatal syncope may occur in the very presence of the physician. I have already mentioned that Allbutt alludes to three such cases occurring in his hospital experience alone, and he also states that several others have occurred in his private practice. Prof. E. S. Lewis, of this city informs me of a similar case in his personal experience.

Again, the displacement of the heart in many cases probably leads to such twisting of the large vessels—mostly the veins that their current is impeded and a tendency to thrombosis is the result. It must be borne in mind that the heart is more or less fixed at its base, being there firmly connected with the lungs and thoracic cellular tissue through the medium of the large vessels. When the heart is displaced by the pleuritic fluid it must, therefore, be tilted in the opposite direction, the apex and body being moved on a pivot represented by the large Under such circumstances the caliber of these vessels-particularly of the more pliable veins-must be lessened near the heart. May not this be the correct explanation of the ædema of the inferior extremities so often met with in these cases,—as well as of the sudden deaths from embola, producing sudden asphyxia, hemi-plegia and pulmonary gangrene? Indeed we may account also for some of the reported cases of sudden death after the operation in which post-mortem examinations have revealed the results of embola, by bearing in mind that a thrombus, already formed at the obstruction above alluded to, may have become detached on the caliber of the vessel being restored by the heart assuming once more its normal position as the fluid is removed. So that in such cases the long continuance of the cardiac displacement may be more to blame for the results than the operation.

Dr. Henry Barnes in a recent article on this subject suggests another danger. He thinks that the long continued stretching of the pleura may so impair its absorbing power as to account for the necessity in some old cases of often repeated operations. There may be a good deal of truth in this suggestion.

I think I have now stated fairly the position assumed by

each party to this controversy. If in so doing I have so expressed myself as to give an intimation of the side to which I belong, it is perhaps because the "common sense of the thing," if I may be permitted the expression, clearly leads to the conclusion that the party who declines to wait till death, so to speak, actually lays his hand on the patient, before taking steps for his relief, is surely right. The patient is in acknowledged risk of his life; the danger is definite and clearly understood. In uncomplicated cases it is due solely to the continued prescence in large quantity of the pleuritic effusion; in complicated cases the fluid adds greatly to the danger and may prove the immediate cause of death.

Under such circumstances shall we wait till the patient is cyanosed and gasping for breath, or shall we ward off these extreme symptoms by removing the immediate cause which tends this way?

What then are the indications for operation in cases of chronic serous hydro-thorax.

It is convenient to have some arbitrary rule in this matter, though, as in all medical and surgical cases, each one should be judged by itself, at least within certain limits.

I would therefore say, that as a rule we may be safely guided by the recommendation given by Dr. Barnes, in the article already mentioned. If the pleura be half full he waits to see what time, aided by therapeutic means, may accomplish. If the cavity become two-thirds full, the point of danger approaches and the fluid should be lessened or removed. This rule I would approve as practically a good one.

In cases of acute serous effusions, it is best—unless urgent symptoms present themselves—to wait and see if the remedies used for the inflammatory condition may not suffice. As already stated these effusions are usually absorbed, and the operation is generally unnecessary.

In the other varieties of non-suppurative accumulations, *i. e.*, sero-sanguineous, hydro-thorax and pneumo-hydro-thorax, we must be guided by the exigencies of the case; the indications indeed may be considered the same as in the case of the chronic serous hydro-thorax. I need not therefore delay

longer to specially consider the operation as applicable to these forms of pleural trouble.

Nor need we say much on this occasion concerning the application of paracentesis to the relief of the *purulent thoracic* accumulations.

Not but that this a subject of great importance: there are few more so. But we do not find much difference among modern surgeons in regard to it; and, therefore, after simply stating the conclusions the profession has reached relating thereto, I may leave the subject as "res adjudicata."

A purulent accumulation anywhere in the body is always productive of harm and frequently involves the greatest risk. Wherever practicable it should be removed, and such measures be adopted as will tend to arrest the further production of pus, and to give immediate exit to what may continue to be formed. Empyema affords no exception to this wise surgical axiom. Indeed I need hardly say that there are circumstances connected with this form of suppuration which makes the law specially applicable. The accumulating pus is here specially injurious, and at the same time its removal is perfectly practicable. The almost universal experience of modern surgeons confirms the truth of these assertions, and we may, therefore, without further delay pass on to consider the last phase of our subject.

# THE METHODS OF OPERATING FOR THE REMOVAL OF THORACIC ACCUMULATIONS.

These may be classified as follows, and their special adaptability to the various conditions found will be considered in the order in which they are mentioned.

1st, Simple tapping with trocar and canula; 2nd, The syphon method; 3d, Aspiration; 4th, The drainage method.

1st. Simple tapping with a trocar and canula without the antiseptic spray is now but seldom resorted to in cases of serous effusion. So great is the fear of the admission of air influencing the transformation of a serous into a purulent collection, that the aspirator or some other means is fast supplanting this old method. If, however, the antiseptic spray

be kept up during the whole time there is no reason why we may not expect very good results in cases where the means of securing a more perfect exclusion of air are not at hand. If practicable however I would prefer

#### 2d-THE SYPHON METHOD.

This is really a modification only of the last, and the necessary apparatus is so simple as to be pretty generally capable of being extemporized. An ordinary trocar and canula with a few feet of gutta percha tubing is all that is absolutely required. The canula, however, should have no shoulder, or only a small collar, in order that it may be readily slipped into the tube. If the proximal end of this tube be slipped over the distal end of the canula, the trocar can be made to perforate the side of the tube near the canula and to enter the latter. When this is done, and everything is ready for the operation, sink the whole apparatus under a carbolized solution of about 2 or 3 per cent. Then let an assistant seize the distal end of the tube between the fingers, mashing it so tightly as to exclude the air. Let the surgeon now at once puncture the thorax and withdraw the trocar. As the latter is removed the tube may be slipped further over the canula so that the latter may pass beyond the injury inflicted by the trocar where it penetrated the wall of the tube. By causing the assistant now to lower the distal end of the tube and keep it below the surface of the fluid in the basin containing the corbolic solution a perfect syphon is made, and the liquid from the thoracic cavity is conducted under the fluid in the basin. This simple expedient, first suggested by Dr. Girgensohn, of Riga, Prussia, meets every indication for the evacuation of serous fluids. I show you, however, an apparatus which I use in such cases and which presents some conveniences. It consists of a hollow trocar, sharp-pointed and covered with a blunt pointed canula, which, after perforation, may be made to slip forward and cover the sharp point of the trocar. It has the advantage over the ordinary trocar and canula in this: the necessity for the removal of the trocar is obviated and the operation is thereby materially facilitated. It is better than the ordinary aspirator needle in this respect; i. e., the sharp end being protected there is no danger of injury to the parts in the thorax as the fluid subsides and the lung expands. The gutta percha tube is interupted with glass at one point, thus enabling the operator to see the nature of the fluid as it passes; and there is a metallic spring near the further end by which the tube can be compressed at will, thus obviating the uncertain resort to the fingers of an assistant. The syphon plan has one advantage over aspiration which in some cases is of decided benefit. The power applied in withdrawing the fluid can be regulated more delicately. This is done by raising or lowering the basin in which the distal end of the tube is submerged, In cases of diseased lung, or suspected adhesions, where a very gradual and gentle suction is desirable, I would, therefore, prefer the syphon method.

#### 3d-ASPIRATION.

As the most certain method of excluding air while removing the fluid, this plan claims precedence over all others. It is now so familiar to the profession, that I need hardly say any thing more about it. By using the finer tubes the removal of the fluid may be effected as slowly as desirable; and thus the dangers attending rapid and forcible exhaustion of the pleural cavity are in a great measure obviated.

#### 4th-DRAINAGE.

The other methods described are only applicable to the non-suppurating effusions. Where pus is present, not only must the cavity be evacuated, but efficient drainage must be secured. This can only be effected by some permanent opening, which at the same time affords us the means of washing out the cavity. There are several methods, each specially adapted to certain cases, which may serve to carry out the indications in view.

In the first place I have in some cases of simple empyema succeeded very well by merely inserting a drainage tube through the large canula by which the pus has been evacuated, using daily injections of carbolic solution for the purpose of assisting in cleaning the cavity of all pus, and at the same time acting antiseptically on the walls.

In other cases, however, a double opening is found advisable. It is usually recommended that we make one of these in the usual position for paracentesis,—i. e., about the 8 or 9 intercostal space on a line with the inferior angle of the scapula,—while the other is made anteriorly.

Chascaignae, and many French surgeons following him, pass a drainage tube through from one opening to the other. I adopted this plan in two cases; but have abandoned it entirely. I now agree with those who assert that the tube thus used acts too much like a seton; and, indeed, it is unnecessary, to say the least. A tube in each opening only sufficiently long to keep open the orifice through the thoracic walls is all that is required. Nor, as M. Potain has shown-at a recent meeting of the Paris Medical Society on the 27th of last July,—is it at all necessary that the openings should be far apart. He suggests that they be made alongside of each other—so near that should a freer opening become necessary the two may be united by an incision into one, both being located in the sixth intercostal space. In washing out the cavity the fluid used is just as efficiently applied to the whole interior walls as if the openings were far apart. In doing this he uses the syphon method, and as he says the cavity is made to wash itself out.

There is frequently some difficulty in keeping the openings free, on account mainly of the approximation of the ribs in cases where there is a collapse of the thoracic walls. A suggestion, whose authorship has just now escaped me, has recently been made, which I take to be a good one. It is to use a hollow uterine stem pessary in each opening. Its mechanism is such that it retains its position, and the distal ends can be inserted into two gutter-percha tubes, so as to admit of syringing out the cavity or injecting it by the syphon method. But there are some obstinate cases—generally of old standing and neglected—in which a large free opening becomes necessary. Here a free incision should be made between the

ribs, and if they are found to have approximated each other so much that the little finger cannot be made to pass between them, a portion of the upper border of the lower-most rib must be removed with a small trephine, or bone nippers. A free opening is thus secured, through which frequent ablutions may be practiced.

## PERITYPHLITIC ABSCESS.

By D. M. CLAY M. D., Shreveport, La.

Pathological conditions of the various organs and tissues of the body derive their chief importance from the frequency of their appearance, their tendencies, and the means we employ for their relief or cure. While this is true in a great measure, especially when the organs are located in certain regions of the body, there are other portions or regions not so fortunate as to have a zealous advocate to unfold the intricate morbid processes that special and practical deductions may be drawn therefrom. These unfortunate portions of the body are frequently the abiding place of disease of no ordinary character, presenting for immediate consideration grave complications demanding speedy and positive efforts for relief. When such complications arise in these benighted regions without data or scarcely a precedent to guide and encourage the general practitioner, is it to be wondered at that human life should be sacrificed or even squandered in the vain effort to make a diagnosis, or discuss a tumor (or bring it to a head). We find this to be the case when studying disease affecting some of the organs contained in the abdominal cavity, especially the intestinal tract. It has been asserted by eminent authority, and with some degree of correctness, that every region and organ of the human body had been impressed into the service of the specialist, except the umbilicus. And yet if this were rigidly true, I am confident we would have more cause for congratulation than to lament over our short comings. We are more thoroughly convinced than ever that if some of those able and zealous men who have accomplished so much in other regions had only devoted a portion of their time and ability to the study of disease affecting the abdominal viscera, we would not to-day be called on to deplore the abscence of any article on perityphlitic abscess in our otherwise able systematic works on surgery. It cannot be stated for a moment that the subject lacks interest and importance. The meagre literature teaches us that it is of frequent occurrence and its general manifestations are far from being benign. On the contrary it is often, too often fatal,

We know of no disease belonging to the present nosology that requires and absolutely demands to be written up, and disseminated far and wide among members of the medical profession more than the one under consideration; because it is less known and by some whose pretensions are surgical, doubts are entertained as to its utility or even existence. This want of knowledge and confidence in the existence and dangerous tendencies of perityphlitic abscess are due in a great measure to the complete absence of any article on the subject in the various systematic treatises on surgery. There are a large number of physicians who are content to regard all suppurating troubles located in the inferior and lateral portions of the abdominal cavity as psoas, lumbar and iliac abscess, of the older regime, and adopt for their plan of treatment the non-interfering, or at most resort to that fearfully precautionary measure "the valvular opening." It requires but a very limited experience in the management of perityphlitic abscess to convince the most skeptical or timid that the expectant plan will not do.

Careful observation in a few cases will serve to teach that the pus will not find its way to the surface by dissecting up the sheaths of muscles, or slowly gravitate to the ischio-rectal region.

For the future we are assured of an extensive and carefully written literature of this important subject, thanks to the efforts of Prof. Willard Parker, of New York city, and to many other medical gentlemen of that city and State. As

long ago as 1848, Mr. Henry Hancock, an English surgeon, wrote on this subject; published a case with a successful operation; and how it was that his article failed to attract that amount of attention which it no doubt justly merited, is beyond comprehension. A few other articles from European authors have appeared from time to time, but when we come to examine them closely, we find that they are more or less connected with abscesses affecting other organs in the abdominal cavity.

Chief among these authors are Ferrall, of Edinburg; Grissolle, of Paris; Volz, of Germany, and Rokitansky, of Vienna. Dr. George Lewis is the first American author that we know of on this subject, and his paper appeared in the New York Journal of Medicine for 1856, 3d Series, Vol. 1st, page 328.

The title of Dr. Lewis, paper was "A statistical contribution to our knowledge of abscess and other diseases consequent upon the lodgement of foreign bodies in the appendix vermiformis, with a table of forty cases." This paper appears to have met with the same fate as that of Mr. Hancock's; it attracted but little attention, either at home or abroad, so far as we have been able to learn. Nor is this all, Prof. Parker's paper, which appeared in the New York Medical Record for 1867, containing all that was necessary, especially his excellent and sucessful operation for the cure, came near (so far as related to the mass of the profession) falling still-born from his pen. It was not until that able and distinguished surgeon. Dr. Gurdon Buck, wrote and published an exhaustive article on the subject, did members of the profession appear to become sufficient'y aroused to publish a report of their cases with treatment and results.

Since the publication of Dr. Buck's paper, a large number of individual cases have been reported, establishing the operation first suggested by Parker, as the one giving the best results and thereby curtailing human suffering and the sacrifice of life to a wonderful degree. All that is known at the present day of perityphlitic abscess, may justly be said to have originated in the city of New York. Since 1870, the physicians and surgeons of that city have displayed an energy and

zeal in the development of this subject, sufficient to entitle them to to our thanks and gratitude.

#### ETIOLOGY.

The cause of perityphlitic abscess is generally well known and often positively ascertained, if operative measures be adopted. However, there are cases terminating in resolution or health where the true cause is never known. I believe we can positively assert that the overwhelming numbers are due to abdominal formations in the bowels, such as stercoral calculi, having for their neucleus some foreign body or calcarious salts. The fecal concretions or stercoral calculi found in the cavity of the cecum or appendix, are either semisolid or of stone-like hardness. They are generally roundish or oval in form and varying in number. In the recent state they are of a grayish brown color, and emit a decidedly fecal odor, but when dry they resemble somewhat the phosphatic calculi of the bladder. The salts predominating in their composition are the phosphate and carbonate of lime and magnesia. How, or in what manner they are formed in the intestinal tract is not known, but probably they are due to small bodies, being caught and retained in the folds of the mucous membrane of the bowels and by peristaltic action, brought in contact with a more extensive secreting surface, and thus by gradual accretion and the absorption of the contained fluid develop into solidity, at the same time lessening their adhering qualities until finally dropping loose from their fastenings, they begin their journey of mischief. Foreign bodies, small in size, such as shot, portions of magnesia, particles of vegetable matter, etc., etc., have been found in the appendix vermiformis of people dead of other diseases, who in their life time had no symptoms indicating such lodgement. Whilst the initial lesion is as a rule in the appendix, it is by no means universal, as there are cases reported, where the abscess proceeded directly from the caput coli or cæcum itself, due doubtless to the causes operating on the walls of that viscus, or at the origin of the appendix. The peculiar arrangement of the folds of the mucous membrane of the cæcum and inferior portion of the colon as it enters into

the formation of the ilio cæcal valve, is conducive to the arrest of any foreign substance or morbid product.

Foreign bodies produce their troubles by direct mechanical influences, whilst the morbid product, such as fecal concretions, exercises a double influence, first by mechanical pressure, and secondly by chemical decomposition, producing a septic fluid, which in turn starts the inflammatory process with its vast train of constitutional sympathies and symptoms.

In all probability these morbid products when they enter and become fastened in the appendix, produce their first morbific influence by pressure which gradually creates an irritation resulting in the secretion of a viscid fluid liquifying portions of the calculi; and thus by thinning and weakening of the walls perforation taking place, discharging the contents, consisting of pus, calculi and necrosed tissue into the peritoneal cavity. But before perforation is accomplished, circumscribed peritonitis takes place around the inflamed part forming adhesions with neighboring parts, especially the cæcum and omentum, and preventing for a time at least, the dangerous perforation. It occasionally occurs that the ulcerative process is so extensive and active that the entire vermiform process is either destroyed or sloughs off and is discharged in connection with the other contents. Dr. Pooly relates a case of this kind. The inflammatory process having its origin in the mucus membrane of the appendix, soon communicates its influence to the adjacent structures forming extensive adhesions. and thus creates and prepares a receptacle for the pus, which, if not thus protected by a wise provision of nature, would inevitably result in acute peritonitis, which in all probability would be speedily fatal.

Nor is this all, if the vitality of the exudate could be sustained and continued so as to strengthen the walls of the abscess in proportion to the spoliative action going on in the interior, rupture would be rare and resolution would be the rule. This trouble is occasionally produced by violence, but this must necessarily be rare, owing to the parts being deeply situated and well protected. Extension of acute inflammation from the execum is an occasional cause, also syphilitic and

tubercular deposits. We have met with one singular instance of extension of inflammation from the cæcum when it (the inflammation) seemed to stop at a short distance from the origin of the appendix, which resulted in the formation of a large globular mass, about the size of an orange, resembling very much an abscess, but on introducing an aspirator needle, it yielded only a thick viscid mucus; and I am satisfied that a few of the cases terminating in resolution are instances of this kind. This peculiar condition of extreme distention has been known to result in a gradual thinning of the mucous and the muscular coats, until they disappeared entirely, leaving a peritoneal covering and of course a serous secreting sack.

#### SYMPTOMS.

Perityphlitic abscess occurs exclusively on the right side. and is the result of typhlitis and perityphlitis, which as the name implies, is an inflammation in and around the cæcum. As a rule it is the result of perforation of the appendix and the collection of matter therefrom occupies the peritoneal cavity. The symptoms ushering in an attack of this trouble at the outset are as a rule not sufficiently positive in character as to render a diagnosis clear and certain. They are of such a nature as would be expected to attend any ordinary indisposition with a marked tendency to the bowels, with rather more gastric disturbance than usual. These symptoms, usually on the second or third day, are quickly and most decidedly augmented, the pain severe and of a lancinating character is complained of as extending over the entire abdomen; fever is ushered in occasionally with a chill or chilly sensations. The temperature as a general rule is not very high, ranging from 99 to 102 F.; the pulse is at first accelerated, from 100 to 120, not full and bounding but contracted. The gastric trouble now increases, persistent nausea and vomiting with troublesome eructation; the bowels are obstinately constipated. If an examination be made at this period the abdomen will be found very sensitive to the touch with commencing tympanitis. The tongue will be found coated in the center with red edges, the respiration considerably increased and embarrassed, at the same time

decidedly thoracic. The pain in connection with other constitutional symptoms would tend to impress one with the idea of an acute attack of peritonitis with the maximum of intensity in the right ilio cæcal region. The lower extremities are drawn up, especially the right leg; and I have often thought that this condition of the right leg in connection with feeling of the tumors in the right ilio cæcal region would be almost pathognomonic. From the very commencement of the attack I have observed this condition of the right leg as being constant; and if the abscess wall should be found rather lower than is usual so as to encroach on the iliacus internus and psoas muscles there will be considerable adduction also. On the second or third day of the attack, and often from the earliest inception of the troubles, the tumor in the ilio cæcal region is sufficiently developed that, by viewing, palpatation and percussion, its character can be determined sufficiently for all practical purposes. The tumor located in the ilio cæcal region is by far the most important and characteristic of the objective symptoms. The tumor can be felt beneath the integuments which move freely over it,—the tumor itself being immovable, with a smooth curved surface, firm, and in some instances quite hard, and seldom fluctuates. Palpation is usually so painful that it is difficult to make out the general form and nature of the tumor; it is often obscured by tympanitis and obesity. Percussion yeilds a muffled resonant sound, the slight resonance is doubtless due to a fetid gas retained in the abscess. The quick and sudden disappearance of the tumor in connection with collapse must be regarded as an evidence of rupture and portends a speedy fatal termination. The tumor always develops rapidly, in one or a few days, and what is remarkable, it is rarely attended by any of those positive symptoms indicative of the formation of pus. It may be well to state here that if physicians permit themselves to be lulled into a complacent security by waiting for the more prominent symptoms usually attending purulent collections in other portions of the body, such as severe chills or frequent rigors with colliquative perspiration alternating with hot flushes, they will most assuredly be led to commit fatal mistakes. We

have seen cases pass through all the stages incident to this trouble without a single chill and scarcely a rigor to warn of the approach of the rupture of the abscess, pouring its contents into the peritoneal cavity, thus producing the fatal collapse and speedy death. The intermitting nature of pain as well as other important constitutional symptoms is delusive, since pain in a great measure ceases when the adhesive inflammation completes the wall of the abscess and is only aroused again when the peritoneum is approached by the spoliative action within, when it is too late to avert rupture. It is one of the peculiarities of perityphlitic abscess to present symptoms of such a mild nature as to be totally inadequate to account for the fearful ravages and destruction of important parts found in autopsies and operative measures. One of the most important functional disorders of the bowels is constipation, produced doubtless by encroachments of the tumor on the cæcum, and causing impermeability of that viscus, thus explaining the origin of stercoraceous vomiting. Diarrhea is occasionally observed but it is an exception to a general rule. The vomiting in the first stage of the disease is persistent and very troublesome to the patient, as well as painful, the explanation of this is the impermeability of the bowel, the consequent peritonitis and sympathetic affection of the stomach. Eructation always seems to relieve the patient. It is remarkable that the temperature, respiration and circulation, after the abscess has formed and is progressing to its final termination, are not disturbed to that extent as to put us on our guard'as to the impending disaster. Nor is this all, the pain, except in the ilio cæcal region, is not of that important character as the true merits of the case would certainly justify.

The rapid and sudden formation of a tumor in the right iliac fossa in the immediate neighborhood of the cæcum and appendix, taken in connection with the constitutional symptoms already detailed, should be regarded as conclusive evidence that we have to deal with perityphlitis, with impending abscess. The tumor at first may be ill defined by palpation or percussion, but the severity, concentration, and persistence of the pain should serve to keep us on the alert for the first

appearance of this apparently insignificant but formidable trouble. Nor will our patience be sorely tried by waiting for the development of the tumor, because it is notorious for its rapid evolutions, and not only makes itself known to the touch, but even occasionally becomes quite visible to the eye. In making a thorough and careful examination of the abdomen for the purpose of establishing a diagnosis it must be borne in mind that much valuable information may be gained by the rectal touch. This procedure should never be neglected, while there exists the slightest doubt in regard to the diagnosis.

#### DIAGNOSIS.

It would be difficult to make a mistake in the diagnosis of this disease; the tumor, the localized peritonitis, the pain, etc., etc., all found in ilio cæcal region should be regarded as characteristic. The only diseases or morbid processes that could possibly be mistaken for this trouble, are the following: proar abscess, fecal impaction in the cæcum, tumors of the ovicutum and intussusception. In psoas abscess the tumor is more deeply seated and nearer Poupart's ligament and the median line of the body; there is more tympanitis and the bowels are not involved; its progress is much slower and it tends to point below Poupart's ligament, on the anterior and inner aspect of the femoral region, or between the glutei and the hamstring muscles. The lower extremity on the side of the abscess is rigidly fixed. Fecal impaction; the tumor disappears after evacuation, is less painful and more movable, there is no peritontis at beginning. Intussusception; -diarrhœa usually precedes this trouble and blood and mucus will be found in the stools. The administration of a cathartic would be a test.

#### PROGNOSIS.

Surgeons or physicians who have had much or little experience in the management of this disease are of one accord in regarding it as having almost invariably a fatal termination. Some cases however when left to themselves have been known to terminate in recovery by the spontaneous formation of an opening into the intestine, and thus the contents of the abscess be discharged per anum. Other cases have been known to

rupture into the bladder, also through the diaphragm into the bronchii of the lungs; and others through the parieties of the abdomen. A favorable termination by resolution is probably the rarest of occurrences, and yet it has been known to occur. Sex and color seem to exercise a controlling influence in the predomination of this trouble; as it appears from actual statistics that the large majority of cases occur in the male. At first thought this would appear as rather strange, since we know that women are much more liable to intra and extraperitoneal inflammation than men, especially during the puerperal state.

Marchal de Calvi lays down the relative frequency of the disease in the male and female as 32 to 4, Volz, 37 to 9, Bamberger, 20 to 4.

Young subjects appear to be more liable than old. In regard to color, my young friend Dr. Walter Hilliard, who is one of the most enlightened and promising physicians in North Louisiana, and who has done and is doing an extensive practice among colored people, informs me that he has never seen a case of perityphlitic abscess in that race. We do not know what to attribute this immunity to, unless it be to their peculiar mode of living, especially their coarse, rough diet, which serves to keep their bowels open and regular. I am not only indebted to Dr. Hilliard for a synopsis of his able report of three cases of perityphlitic abscess, but also the pleasure of watching with him the progress of two of his cases which will be found tabulated at the end of this paper.

#### TREATMENT.

The treatment of perityphlitic abscess has very naturally and properly been divided into medical and surgical. The management of such cases down to a few years ago was exclusively on the plan of expectancy, hoping that the pus would eventually find its way into some friendly viscus and thus evacuate itself; or point somewhere under the parieties of the abdomen, where it could be safely reached with an ordinary thrust of the lancet. It must be born in mind that a large number of our profession have an aversion to any active operative

interference in regard to purulent collections in the abdominal cavity; and this aversion is based on the idea of atmospheric contamination. It would appear that the various sections made into the abdominal parieties, such as ovariotomy, laparotomy, etc., etc., have failed to impress them with the innocuousness of this agent.

While we would strenuously advocate prompt and decisive surgical interference in cases where we thought it demanded, yet it should not be to the prejudice or neglect of those remedial agents which, when judiciously used have accomplished so much. As soon as the nature of the attack has been recognized and there be no positive contra-indication, a cathartic should be administered, aided if necessary by enemata. In the selection of a cathartic we would advise a mercurial, such as calomel combined with a little soda bicarb; and if this should not have the desired effect, it may be advantageously followed with a dose of oil and turpentine.

In the very outset of this affection rest in the recumbent posture should be urgently enjoined and rigidly enforced; because, on this remedial measure more than any other, depends the possibility of procuring resolution. Opium should be administered, not only to procure sleep and freedom from pain, but also absolute or physiological rest, so that the peristaltic action of the bowels would not disturb and aggravate the inflammation in the immediate vicinity of the eccum. It has been ascertained by experience that the best mode of administering this invaluable drug in acute inflammations, is from one-half to one grain in intervals of one to three hours.

Professor Bamberger states that since he adopted the opium treatment that he has lost only ten cases out of thirty; whereas those that were treated autophlogistically only one recovered out of thirty-eight. From this it would appear that we could not be too careful in inculcating the doctrine of great circumspection in the selection and employment of our remedial agents. In the management of perityphlitic abscess there is a delicate point to decide in regard to the use of cathartics. If the inflammation has existed any length of time, more especially if adhesions have taken place, the administration of a

cathartic will certainly do harm. On the other hand if the trouble amounts simply to an uneasiness and there be no elevation of temperature or marked acceleration of pulse, allowing the decubitus to be dorsal with the legs drawn up, a mild cathartic can be safely administered, and in many instances with benefit. For the local treatment we would recommend leeches and fly blisters, and when the case advances to suppuration, or where we are confident that resolution will not take place, the application of warm poultices or fomentations affords prompt and decided relief.

To the surgical management of this affection must we turn with that peculiar pleasure, where success inspires the patient with hope, and the surgeon with confidence in his powers of not only alleviating human suffering but actually saving life. Thus it is at the present day in regard to the operation for perityphlitic abscess. As before stated we are indebted to Prof. Willard Parker, of New York, for the first well planned operation for the cure of this trouble. The prerequisites for this operation are first to establish the presence of pus and secondly that adhesion has taken place between the peritoneum and fascia transversalis. Fortunately for the patient and surgeon the procedure necessary for ascertaining the presence of pus is one unattended with pain or danger, and this is accomplished with the aspirator needle or small trocar and canula. And it may be stated here, that the use of these harmless instruments establishes the time when the operation should be performed better than any other means we have at our disposal.

The aspirator or trocar and canula, whichever suits the operator, should be plunged into the most prominent portion of the tumor, and if there be pus a few drops, sufficient for all diagnostic purposes, will pass through the canula in connection probably with fetid gas, emiting a strong fecal odor. If pus should not be found the canula should be withdrawn from the abscess wall, but not from the cavity of the abdomen, say about to the neighborhood of fascia transversalis, and then re-directed to another portion of the tumor, and so on until as many as three or four openings have been made.

The only way we can ascertain positively whether adhesion has taken place is to complete the operation; i. e., the incision should extend through all the tissues until the fascia transversalis is reached, and then a careful examination will reveal to us the condition of affairs. It is obvious why we should so much desire the adhesion of these two important structures, by it is prevented the escape of the contents of the abscess into the peritoneal cavity. The operation of Prof. Parker consist of an incision commencing one inch to the inner side and on a level with an imaginary line drawn from the anterior superior spinous process of the ilium to the same point on the opposite side and extending downwards four to six inches towards the spine of the pubis, and parallel with Poupart's ligament. The integuments, superficial fascia, the tendons and muscular slips of the external and internal oblique muscles are divided, either with the knife or separated with the handle of the scalpel or fingers. When this part of the operation is completed a white glistening aponeurosis will be brought into view-this is the fascia transversalis, a point arrived at when a more thorough examination of the abscess or tumor should be made. It can now be ascertained whether adhesion has taken place and whether there be pus and, if this is satisfactory, a free incision is made through the intervening structures into the cavity of the abscess, when there will be an escape of fetid gas and matter. The opening into the walls of the abscess should in all instances be large enough to admit the finger, which should be invariably introduced for the purpose of ascertaining the presence and prompt removal of any foreign substance or necrotic tissue. Dr. Buck's operation consisted in first introducing an aspirator needle or small exploring trocar and canula, and if pus was found it (the trocar or needle) was left as a guide and the opening enlarged to a sufficient size to admit of a free and easy passage of the finger, the subsequent treatment being the same as Parker's. The objections urged against the operation are the cutting through the various tissues or structures in a haphazard way, not knowing the amount or extent of adhesion, the danger of escape of pus into the peritoneal cavity is greatly increased. We are persuaded

from the simplicity of this procedure, divested as it certainly is of any anatomical consideration that it will be the one adopted by the mass of the profession; while the one suggested by Parker will be adopted by those who are familiar with the great principles which underlie operative surgery. In regard to waiting for adhesion to take place between the membranes before opening the walls of the abcess, it is an open question and must be determined by the operator or condition of the patient. If the symptoms were urgent and there was any evidence of rupture we would advise operation without any hesitancy. Nor is this all, while we attach considerable importance to this much desired condition, we do not believe when the cavity of the abscess is kept thoroughly drained and properly cleansed there will be much difference in the general results. If this condition should be regarded as an essential prerequisite, the operation suggested by Dr. Buck would in many instances be attended with fatal results. The plan recommended and adopted in such cases is, when adhesion has not taken place, to dress the wound open; or in other words to pack it with picked oakum or some other antiseptic dressing, and wait for the abcess to burst of its own accord, which usually takes place from one to three days, treating it in the same way as other operations. When the operation is performed in the usual way, and on reaching the supposed abscess none be found, but instead, a round indurated and unyeilding tumor, what course or plan should be adopted? We have met with one such case, and on thorough examination found that it was the distal end of the appendix, which had assumed this extraordinary globular form. After reviewing the history of this case we were satisfied that we had to deal with a typhlitis with extension of inflammation, which had obliterated the opening to the appendix near its origin, and thus by its own abnormal secretion caused this peculiar development. We introduced a small trocar and canula into this tumor and nothing escaped but a few drops of viscid dirty looking serum. The treatment was the same as for abscess, except the syringing.

This tumor remained for several months after the wound

had healed, giving the patient but little if any trouble, except on occasions of indiscretion. It finally disappeared and the patient is now strong and healthy.

In regard to not finding pus in opening in right ilio cæcal region, Professor Pooley justly remarks: "the physician so far from feeling chagrined at the result should congratulate himself that if matter is going to form he has prepared for it a ready exit, and averted much danger and suffering, and if not, he has done no harm.

Whatever operation be performed, the great object is the thorough drainage of the pus, and the complete removal of all foreign substances. After this the cavity of the abscess should be washed out two or three times a day with warm water and salt or with warm water oj. to which 3i carbolic acid. A Davidson's or Fountain syringe, will be found most suitable for this purpose. A drainage tube, either of rubber, glass, or some metalic substance, should be in constant use or position; or if this manner of drainage should not be used, either oakum or something like a lamp wick as recommended by Parker, will be found of great advantage. The dressing should all be made antiseptic, either by carbolic, salycilic, boracic acid, or some other well known antiseptic agent. A poultice made of some soft material, such as linseed meal, rendered antiseptic, should be constantly applied and renewed as often as occasion requires. Immediately after the operation, when the wound is of considerable size, appropriate sutures, such as silver wire, should be used, carefully adjusting the parts so that union may take place by first intention. It must be born in mind that the sutures should embrace all the structures, including the peritoneum so as to strengthen the parts and prevent the future probability of ventral hernia. The sutures under no circumstances should be permitted to encroach upon the opening for drainage, which should be ample and remain so as long as suppuration continues. The diet should be bland nutritious, such as would be digested and appropriated by the stomach, leaving but little residue to pass into the bowels. The bowels should be kept quiet, preventing an operation for the first four or five days; however, we do not regard this as positively contra-indicated.

In regard to the action of the bowels after peritonitis, experience has taught us that constipation soon ceases spontaneously, even while the opium is being administered liquid stools occur, if the disease takes a favorable course, A successful operation for the cure of perityphlitic abscess affords prompt relief, in fact it is remarkable to witness so many grave symptoms disappear so rapidly. The patient rescued as it were from the very threshold of destruction is soon himself again. It would be safe in all cases after operations of this kind, to adjust a suitable truss and insist on its being worn all the time when the patient resumes his avocation. The parieties of the abdomen are greatly weakened, and for the safety, protection and comfort of the patient they should be strengthened by suitable support. Before dismissing this subject we cannot refrain from mentioning a peculiarity in regard to foreign bodies being occasionally absent or not found, after operative interference. There can be no doubt of the rarity of cases not produced or influenced by foreign bodies, more especially concretions which in most cases make their exit at the time, or soon after the operation. We are satisfied from our own experience if operators would take their time and care to search for these bodies or their broken down remains, their efforts would be rewarded with success. the concretions pass into the appendix or maybe formed in it the consistency is firm, sufficient to excite irritation, congestion and inflammation with its phenominal results, thus liquifying them in a great measure and producing the characteristic gas and septic fluid in their stead. In closing this paper I feel that it would be incomplete without expressing my thanks to that indefatigable worker and accomplished writer Dr. Samuel Withall, of New York city, and to my personal friend of home, Dr. Walter Hilliard. My only bibliography in the writing of this article is from the papers by Drs. Leonard Weber, Gurdon Buck and Prof. T. H. Pooly, M.D. I have adopted the statistics of Prof. Pooly, adding the cases of Dr. Hilliard and myself.

# STATISTICS.

REMARKS.	two large concretions discharged.	(abscess had partially discharged per rectum;	on being opened, pus &c.	opened twice.	opened by an incision six inches long.	incision three inches in lengh.	no foreign body.		complicated with phlegmasia-dolens.	no pus when first opened.	eight or nine concretions discharged.		no pus at first.	99 99 99 99 99	large concretion discharged.	died of peri- cabseess burst into peritoneum after being	and on	complicated with severe errsipelas,	passed pus both by bladder and rectum.	ð	death in 74 d'ys. general peritonitis.	
RESULTS.	Recovery.	3		99	79	99	99		99	99	99	99	99	99	99	died of per	recovery.	99	99	99	death in 74 d'y	recovery.
WHERE REPORTED.	Lancet 1848, Vol. II, page 380.	7 7 77 77 77 77 77 77 77 77 77 77 77 77	, TT		" " " " " 11, 225.	Reported by Dr. Burge of Brooklyn New York	Record Vol. 6, page 113.		anada Lancet, 1872.	ed. Rec. Vol. 9, page 255.	" " " 463	" " " 9, " 50.	" " " 1, " 510.	" " " 1, " 649.	erman Journal, 1873.	Med. Rec. Vol. X, page 861.	" " XI, " 12.	99	" " " XI, " 12.	9,9	" 373.	64 825.
IO. OPERATOR.	1 Mr. Hancocke. La			_	5 W. Parker.		7 Dr. L. Weber.	of New York	'n.	III.		slsey.	12 Dr. S. B. Wood,	. •	14 Prof. Weinlecher. German Journal, 1873.	15 Dr. R. F. Weir. M	16 L. Weber.	17 L. Weber.	18 L. Weber.	19 G. Buck.	20 Prof. E. Mason.	21 Dr. E Holden.

# STATISTICS-Continued.

REMARKS.	recovery.  "cound closed in eight days.  "cound closed in eight days.  "cound closed in eight days.  "scess of lung.   later punctured again—pus.  "connect with Vienna paste.  "recurent abscess first opened spontaneously.  discharge of gas and fetid pus.  "council the council the c	death in four ( abcess opened when on point of opening months. ( several lumbricoids discharged. recovery. mistaken at first for hernia. cherry pit discharged. " appendix came away with discharge."
RESULTS.	death from ab- scess of lung. recovery.  " " " " " " " " " " " " " " " " " "	death in four months. recovery.
WHERE REPORTED.	Med. Rec. Vol. XII, page 181.  German Journal, 1871.  " " 1873.  ( Trans. Med. Asso'n, State N. Y. 1875, Vol. I and II, p. N. Y. Acady of Med. 2d Series. Buck's paper in above vol. of trns.  " " " " " " " " " " " " " " " " " " "	39 Wm. Bogord, of St. John's, New Branswick. 40 Dr. Rauchenburg, Atlanta M. & S. J. 1876, p. 273. 41 Dr. J. M. Johnson. " " " " " " " " " " " " " " " " " " "
NO. OPERATOR.	22 Dr. J. C. Adams. 23 Dr. Stigle. 24 Dr. Stigle. 25 Dr. Rottman. 26 J. W. S. Gouley. 27 E. Krakowitzer. 28 J. P. P. White. 29 Dr. J. R. Wood. 30 J. R. Wood. 31 J. R. Wood. 32 J. C. Hutchinsons. 33 J. C. Hutchinsons. 34 R. B. Bonticou. 36 R. B. Bonticou. 36 R. A. Leale.	39 Wm. Bogord, of St. Joans, New Branswick. 40 Dr. Kauchenburg. 41 Dr. J. M. Johnson. 42 Prof. J. H. Pooly.

# STATISTICS-Continued.

REMARKS.	traumatic origin, not stated,	66 66 State of the state of Talora of the state of the st	man age 24, no foreign body found—fetid	gas escaped, opening made with trocar. (rupture of abscess on 15th day, general	collapse and death,	opening three inches long, three concretions.	is the state of th	rupture of abscess on 14th day, general peritonitis, collapse and death.	opening five inches long, hemid protrusion afterwards.
RESULTS.	recovery.	9 9	39	died.	recovery.	29	99	died.	recovery.
WHERE REPORTED.	44 S. A. Turney, Reported by Pooly.	Vorly Medical Lorn 1877	Not reported.	Not reported, 1877.	1877.	., 1869.	.1871.	.1871.	1874.
	ooly. N. Y	Now No	Not.	oort, La. Not	ort, La.	50 t, La.	y	y	×3 ×2
OPERATOR.	Prof. J. H. Pc S. A. Turney,	S. A. Turney,	47 Dr. Hilliard.	48 Dr. Hilliard,	49 Dr. Hilliard,	50 Dr. D. M. Clay.	Dr. D. M. Cla	52 Dr. D. M. Clay.	53 Dr. D. M.Clay.

### Preventive Treatment of Yellow Fever in Havana.

By DR. P. SELIS.

(Translated from the Cronica Medico-Quirurgica de la Habana for the month of July.)

Leaving for the moment the great questions of quarantine and disinfection, let us speak of several indications or advices for people, who come from countries, where black vomit or yellow fever does not exist epidemically. We say so, because we have often heard people from New Orleans saying: "We "are not afraid of yellow fever in Havana, it exists sometimes "in our country, in consequence we are not liable to have it." This is a fatal mistake that has cost many lives. There is no doubt that the inhabitants of those places, or others similar are less subject to yellow fever, but between this and a total immunity there is a great distance. We will say then that every person of any class, age, or profession who comes to Havana is liable to contract yellow fever, and with the less security, as their nationalities are more distant from the regions limited by the Mexican Gulf. We want to destroy a fatal prejudice, that has been the cause of many victims, on account of the neglect, with which several fevers in women and children are looked upon, believing that they cannot take the black vomit

The first thing that a foreigner has to do, immediately after landing, is to locate himself in one of the healthiest places of the city; to dress, and modify his ordinary habits of eating and drinking, according to the usages of the country: to stay in the house during the hottest hours of the day, that is between 11 A. M. and 3 P. M.; to be moderate in both physical and intellectual works; to take every once in a while saline purgatives, and luke warm baths; not to sleep with windows open during the night; to avoid any kind of excess, as nervous excitement is very prejudicial, and favorable to the development of the disease. Indigestions are particularly terrible.

They can drink lemonades and orangades without the abuse of ice, which is highly irritant when used in excess. They must also be careful about taking cool refrigerating drinks before the digestion be effected.

Good and well ripened fruits are not dangerous, no matter what the vulgus says against them.

The use of cotton unders hirts is very healthy, by keeping away that disagreeable chilly sensation caused by the contact of linen shirts damped by excesive perspiration. If in spite of these precautionary measures, he feels some symptoms of disease, he must not lose time, but send immediately after a physician, because yellow fever is one of the diseases, that requires the greatest activity in its treatment. Six or seven hours lost are sufficient to compromise the cure, or at least to bring accidents that could have been avoided. It is a disease that we can cut off in the commencement. Let people take note of this.

The physician, who is called thirty or forty hours after the invasion of the fever is perplexed, as congestive disorders already exist, and albumen is abundant in the urine, and he is no longer able to avoid stomachal and intestinal hæmorrhages, which a proper treatment commenced several hours before could have prevented.

At the hour that we are writing this paper, a child five years and a half old is dying, who fell sick on the 21st. Its parents, convinced that children are exempt from yellow fever, waited to call us until the 23d forty eight hours afterwards. At our fourth visit, intestinal hamorrhages made their appearance, and the child died on the eighth day of the disease with tetanic symptoms. Seeing such a vital resistance in this patient, it is more than probable, that he could have recovered, had the medical treatment been initiated in the first hour of the disease.

The indications, that we have just suggested, are only hygienical; we believe, that the public has the right to claim from us something more. We have thought of it, and we are going to propose a preparation composed of quinine and extract of nux vomica.

We believe, that in times of epidemic, it would be good to take every morning according to age, or sex, from ten to twenty-five centigrammes of either sulphate or bromhydrate of quinine with two or three centigrammes of nux vomica, either in pills, or dissolved in a little water or coffee. We cannot assure that this prescription really prevents yellow

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fever, but we would not be surprised, that if for some people it might be a preservative; for others who fall sick in spite of its use, might be a means of moderating the violence of the symptoms, and converting into a fever of acclimation, cases that otherwise would have been genuine yellow fever. We are often consulted by the new immigrants to this Island, whether blood letting from the arm be a good preventive against the fever. We answer that in plethoric persons we think it useful, and in proof of it we will relate the following fact:

Thirty years ago there was in Santiago de Cuba, a physician who had charge during many years of the barrack troops. He used to send acclimated soldiers to a very fresh and elevated place, called El Morro, situated at the entrance of the harbor. He bled them from the arm, once or twice; he administered a couple of saline purgatives to each soldier, and sent them back to the city fifteen or twenty days afterwards. An old friend and confrere of ours told us that black vomit was in those times almost unknown among the troops.

Here ends our work. It is an exact epilogue of what we have seen, exempt from all influence of school, and without any preconceived idea. By giving this preventive treatment based upon remarkable success, we have been guided by good faith, and by the desire of being useful; we are always ready to acknowledge our errors, and to accept any thing better, that the field of scientific truth may afford us.

Before leaving our readers, and colleagues, we want to call the special attention of the profession to the following points.

1st. To determinate the precise moment, when albumen appears in the urine. 2d. To study the pulse with the sphigmograph. 3d. To try the influence of oxygen mixed with the air, that the patient breathes. 4th. To examine the condition of the blood by means of polarization, according to the late magnificient works of Fumouge. 5th. To investigate with great care the internal lesions through pathological anatomy: it is a void in the history of yellow fever, that could well be filled by the intelligent professors, that are at the head of the civil and military hospitals of this city.

### CURRENT MEDICAL LITERATURE.

### A REMEDY FOR THE ERUPTION OF POISON OAK, IVY, AND SUMACH.

Dr. S. A. Brown, U. S. N., More Island, California, believes that he has found a specific for the eruption caused by contact with poison oak, sumach, ivy, huahoo, cashew nut, etc. He writes:—"This specific is bromine. I have used it with the same unvarying success in at least forty cases. The eruption never extends after the first thorough application, and it promptly begins to diminish. Within twenty-four hours, if the application be persisted in, the patient is entirely cured. There is no pain attending its use, as from that of astringents. Of course, the epidermis peels off as after other treatment.

"I use the bromine dissolved in olive oil, in cosmoline, or in glycerine. The application with glycerine is painful, and, I think, possesses no advantage to compensate for the irritation. The strength of the solution is from ten to twenty drops of bromine to the ounce of oil, used by rubbing gently on the affected part three or four times a day, and especially on going to bed at night. You wash off the oil twice a day with castile soap.

"The bromine is so volatile that the solution should be renewed within twenty-four hours of its preparation, as it will get out of a bottle, however well corked. It is best to stand the bottle on its corked end, in the intervals of application.

"I have seen no publication of this treatment, and I therefore send you my experience with it, hoping to attract to it some little attention, and to do the good which must result from its adoption."—Medical Record.

### ARSENIC IN MANIA.

An old and somewhat obscure physician of our acquaintance has acquired some celebrity for curing crazy people, many of whom have been sent to him from a distance. Upon inquiry he informed us that his remedy was arsenic—Fowler's solution in small doses long continued.

### HYPODERMIC INJECTIONS OF CAMPHOR IN INSOMNIA.

N. E. Wittich, assistant physician to the Lunatic Asylum of Heppenheim, near Tübingen, reports (Berlin. Klin. Wochenschrift, No. 11, 1878) success in the treatment of the insomnia of female lunaties by camphor. He gives from 1½ to 3 grains in wafers by the mouth. He has also employed hypodermically a solution of 1 part camphor in 10 parts of oil of sweet almonds with even better results. W. does not state how

much of this solution he injects, but the quantity is probably the same as that used internally. He asserts that no irritation or inflammation follows this procedure, even after repeated injections. He recommends that the needle used be rather large.—E. C. S. in Archives of Clinical Surgery.

Dr. George Wachsmuth recommends (Deutsche med. Wochenschrift) for an easier, pleasanter and less dangerous anæsthesia, the addition to chloroform of one fifth its bulk of ol. terebinth. The latter acts as a refrigerant to the lungs and thus prevents their paralysis, increases their capacity and volatizes the chloroform, facilitating its diffusion. For the patient it is quite pleasant, and for the physician speedy and safe.—St. Petersburger med. Wochenschrift.

Marion Sims' stay at Vienna last month seems to have been one series of ovations. The journals of that city contain regular bulletins of his movements and operations—for during his visit he performed quite a number. All are loud in expressions of surprise and pleasure at the dexterity and elegance of his manipulations. Although sixty-five years of age, the journals state that his vivacity of spirit and elasticity of body make him appear far younger.—Clinic,

### THE HOT MUSTARD-BATH IN PNEUMONIA IN CHILDREN.

Dr. Leonard Weber, of New York, gives his experience in the use of this remedy (American Journal of Obstetrics, April, 1878). He has used the mustard-bath only in the severe cases of pneumonia of children. For years the treatment followed by him was that of the late Professer Traube, namely, the use of infusion of digitalis and nitrate of soda, whenever the pulse and temperature of the patient were high, and there was an indication that something must be done to bring them down. This treatment proved satisfactory for a long time, but he finally failed to have his former success; and in the asthenic cases admitted to St. Francis's Hospital, New York, more than fifty per cent. died in spite of all treatment; and twelve per cent. of the sthenic form died, under the use of the digitalis and an evening dose of Dover's powders. He further says :- "The great value of the hot mustard bath as a means of saving the life of a pneumonic patient, after other remedies have failed, I learned in 1869. About a year before that, I attended J. A., ten months old, a previously healthy and robust child, afflicted with extensive pneumonia, after having been sick for a week with bronchitis. On the third day after I had seen and treated her in the usual manner, she became rapidly cyanosed and died. In November, 1869

another female child of about the same age and similar good constitution, in the same family, became affected in the same way, and when I saw it I recognized pneumonic infiltration of both upper lobes. In spite of emetics, digitalis, mustardplasters and poultices over the chest, she became cyanotic at the end of the third day, with stertorous breathing, cold extremeties, and failing heart action. It occurred to me at this stage to immerse the patient in a hot mustard-bath of 105° F., prepared by diffusing about a pound of mustard in a babytubfull of hot water. I kept her in for about ten minutes, making thorough friction all over the surface, and until the skin had assumed a pinkish color. After being put to bed, which I had well warmed previously, the child began breathing easier and soon fell asleep. The skin remained warm, and an hour after the bath the child was perspiring freely. With the improvement of respiration, the pulse became stronger and less frequent, and the child took the breast readily. Encouraged by this success, I repeated the process four hours later with the same good result; and after having administered five baths in the course of forty-eight hours, and given no medicine whatever, I had the satisfaction of seeing my patient convalescent."

Since then Dr. Weber has had about fifty cases, and gives here a short account of six of the most severe ones; all of them recovered, some of them being complicated with hooping-cough and measles, and in some cyanosis had occurred, the hot mustard-baths relieving the congested lungs and helping the overburdened heart, after other remedies had failed to be of service.

The modus operandi given is that the mustard is a powerful irritant, and the hot water dilates the bloodvessels, and thus a large amount of blood is drawn to the periphery over the whole body, and the obstructed pulmonary circulation and the heart's action are relieved. Again, the bath is regarded also a powerful excitant and stimulant of the central nervous system, respectively of the vaso-motor center acting upon it by way of reflex, through irritation of the nerves at the periphery, and thus relieve the comatose condition, where camphor and carbonate of ammonia have failed.—American Practitioner.

## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

SUDDEN DEATH AFTER SEVERE BURNS.—At a recent meeting of the German naturalists in Munich, Ponfick (1) gives the results of a series of experiments made by himself and F. Schmidt with reference to the results of severe burns. The blood was found to be altered in all cases of severity, the red corpuscles separating into numerous small bits. These disappeared after a varying number of hours, with the seeming

<sup>(1)</sup> Berliner klinische Wochenschrift, xlvi. 672.1877,

effect of exciting grave disturbances in several organs. A large portion of the apparently free hæmoglobine was eliminated through the kidneys, the parenchyma of which in the severe cases was evidently much inflamed, peculiarly colored casts being found in the urine, while the tubules were obstructed, and the epithelium in a state of fatty degeneration. Another portion of the decomposed red corpuscles was taken up by the contractile cells of the spleen and bone-marrow, in which a gradual destruction was probably accomplished. The enlargement of these parts, their increased redness and moisture, offered evidence that the change mentioned was present.

It seems probable that some of the rapidly fatal cases and some of the severe symptoms in cases of recovery result from the extensive and sudden destruction of red blood corpuscles. The rapid suppression of urine and a resulting uramic poisoning may also be of importance. From the evidence presented by these experiments Ponfick recommends transfusion, as a rational therapeutical measure in cases of severe

burns.

## ELEPHANTIASIS ARABUM—A NEW TREATMENT FOR. NERVE SECTION.

The patient, a colored man, was first admitted to the Pennsylvania Hospital on December 1, 1873, for elephantiasis of right leg, which extended from the middle of the thigh down to the instep. The skin and superficial cellular tissue were very much hypertrophied, and hung in large folds over the ankle joint. Under some portions of the thick, scaly epidermis, there were effusions of pus.

Dr. Thomas G. Morton tied the femoral artery at the usual place, on December 12. The patient was discharged March 21, 1874, very much benefited. On a subsequent admission to hospital, the limb was found to be nearly as large as it was prior to the ligation; the patient, however, considered himself much improved, and thought that the operation had markedly arrested

the progress of the disease.

The patient was re-admitted to the Pennsylvania Hospital, on November 9, 1877. The leg was found to be double the size when last seen, measures twenty-one inches in circumference.

The man desired to have an amputation performed.

"Having noticed the frequency with which operations for nerve-section are followed by atrophy of the parts supplied by the nerve which is cut, Dr. Morton determined to attempt the artificial production of atrophy of the right lower extremity by section of the motor nerve of that limb. Accordingly, on November 17 of last year, the right sciatic nerve was laid bare, and one and one-half inches of its length exsected at the upper third of the thigh. No unpleasant symptoms have occured since the operation incident to the section. There has been a steady

diminution in the size of the limb ever since. On January 3, of this year, it was measured and found to be but 12½ inches in circumference, a reduction of 8½ inches. The thick skin has desquamated, leaving a perfectly soft and pliable skin beneath. There has not been the least disposition on the part of the skin to ulcerate, and the last sensibility is confined to the extreme anterior portion of the dorsum, all of the sole of the foot, and a strip of integument about two inches in width on the posterior part of the leg.

We are happy to say that, to Dr. Morton alone are due the congratulations of the profession for the conception and performance of this novel and (judging from his first case) highly successful operation, for the relief of what has always hitherto seemed to be a most troublesome and but partially curable affection, at the hands of the surgeon.—Philadelphia Medical

Times, Jan. 19, 1878.

### ERGOTIN SUPPOSITORIES.

The following formula is that very generally used by practitioners in Ireland:—

B.	Hard soap	), .	-	-				-	3j
	Water,		,		4	șie.	, -		Mxxx
	Ergotin,				-				gr. xxxij
	Glycerin,		-						388.

Dissolve the soap in the water, with a gentle heat, and add the glycerin; evaporate, to get rid of the water, add the ergotin, and pour into moulds. By this manipulation a nice suppository is obtained, which is difficult to make with glycerin alone.—Medical and Surgical Reporter.

### AN IMPROVED ANÆSTHETIC. CARRON OIL IN ANAL FISSURE.

This painful affection, which has heretofore resisted almost all forms of treatment by local applications, has been successfully managed by Carrère, who states in Annales de la méd. de Gand that he applies the mixture of lime water and linseed oil, so commonly used in burns. This is done several times daily, and in all cases he has obtained a cure in at farthest eight days.—Allg. Med. Cent. Zeit., No. 2, 1878.—The Clinic.

# A SIMPLE METHOD OF REDUCING PROLAPSUS OF THE RECTUM. BY J. C. DAVIS, M. D.

If the patient be a child, place it on its back, flex the thighs and legs at a right angle to the body; let the nurse or an assistant hold them in this position, wipe the mucus or other discharge from the prolapsed part; then take an old hdk'f, piece of soft linen or cotton rag, place it loosely over the index finger and introduce it slowly into the rectum: the mucous membrane will adhere to the rag, and the part last decending will be the first to repass the sphincter. Carry the finger the full length up the rectum; then with two fingers of the left hand (one on each side) sustain the gut while withdrawing the finger. To remove the rag, keep up the counter-pressure with the fingers of the left hand, and pull gently, first on one side, then on the other of the hdk'f or rag, and in this way remove it from the rectum. If the patient be other than a child, place him in the "Sim's position," and the same procedure will accomplish the object in view.

### TREATMENT OF PROLAPSUS ANI IN INFANTS.

Dr. P. Jamieson, in the Obstetrical Journal of Great Britian and Ireland, describes his method of treating a case of prolapsus of the rectum in a child fifteen weeks old. The gut was protruding four inches, and could be reduced only with great difficulty; but was immediately projected again, with violent straining and tenesmus. The appearance and condition of the child gave evidence of extreme suffering. Dr. Jamieson replaced the intestine and introduced his finger till the tip of it touched the point of spasmodic contraction. He then bade the mother to do the same thing, and force the point of the finger within the stricture, and keep it there four hours continuously—the child having been placed under the influence of morphia. At the end of that time the intestine retained its place on the removal of the finger, During the ensuing twentyfour hours it slipped out five times, but was immediately returned by the mother. A complete cure was eventually effected by this means.—Pacific Medical and Surgical Journal.

### ICE IN THE RECTUM IN CHLOROFORM NARCOSIS.

According to Dr. Baillee, there is no more active remedy in the narcosis caused by chloroform than the introduction of a piece of ice into the rectum. A moderate pressure suffices to overcome the resistance of the sphincter, The ice melts in the rectum and immediately a deep inspiration is produced, the precursor of natural respiration, and of the re-establishment of the cardiac functions. Dr. Baillee recommends the same means in apparent death of the newborn.—Gaz. des Hopitaux—Can. Jour. Med. Science,

### THE TENACITY OF LIFE IN THE HUMAN FŒTUS.

It is well known that a newly born animal (mammal) can endure an absence of oxygen at most for only three to four minutes. Its reflex excitability is then lost and it dies. But

the embryo has a much greater tenacity of life, as the following

observations by Zintz and Pflüger show:

In an embryo 15 ctm. long, born in its membranes, Zintz was able to recognize perceptible movements of the extremities by palpation for fifteen minutes. When the membranes were opened after a quarter of an hour, no spontaneous reflex movements were visible, but there was prompt muscular reaction to electric irritation. The opening of the embryo, considered dead, an hour after birth disclosed still powerful action of the heart, which continued for some minutes.

A similar observation of still greater vital tenacity was reported by Pflüger, in the case of an ovum estimated to be eighteen to twenty days old. Pflüger put the embryo under a watch glass and left it there over a cold night. To his great astonishment he observed on the next morning, when he opened the ovum under a microscope, a slow contraction of the heart, which at this time is only an s-curved sac. Every 20-30 seconds the heart slowly contracted, and this contraction continued for an hour. The final cessation of its contraction was not awaited. These observations prove that the vital tenacity of the human fœtus is equal to that of the lower animals, and is not even inferior to their embryos.—Pflüger's Archiv, x. iv, p. 616.

### THE ODOUR OF SANCTITY.

Dr. Hammond, of New York, is fully persuaded that many of the saints of the earlier days of the church were highly odoriferous; and this peculiar quality he distinguishes from the ill-smelling savour, due to a neglect of washing, and attributes it to an affection of the nervous system. Several curious instances of fragrant saintly emanations are quoted. the blessed Venturin of Bergamos, we are told, officiated at the altar, the people struggled to get as near as possible, in order to enjoy the perfume he exhaled. St. Francis de Paul gave off most sensibly a delicious odour after he had fasted thirty-eight or forty days, and had subjected himself to frequent disciplinary inflictions. The body of the blessed Liduine emitted a delicious redolence, which was sensible not only to smell but to taste, as it left on the tongue and palate an impression like that of chewing camelia. Dr. Hammond refers to three cases which have fallen under his own notice, in which specific odours have been given off from the body, as the result of affections of the nervous system. In the first, a young married lady, of strongly hysterical tendencies, exhaled an odour of violets, which pervaded her apartment, and was distinctly perceptible at a distance of several feet from her. This pleasant fragrance was given off from the left half of the chest only, where the perspiration was remarkably increased, and could be obtained in a concentrated form by collecting the perspiration in a cambric handkerchief, heating this with four ounces of spirit, and distilling over one-fourth of the spirit. The distillate was strongly impregnated with the pertume of violets, which was converted into that of pineapple on the addition of bicarbonate of soda. It is assumed that this perfume was dependent upon the presence of butyric ether in the perspiration. The administration of salicylate of soda ultimately relieved the lady of the violaceous redolence, which she was most anxious to part with. In the second case, a pineapple odour was exhaled with the insensible perspiration by a young lady suffering from chorea. In the third case, a violaceous odour was emitted by a hypochondriacal gentleman. Dr. Hammond has known uppleasant odours to be exhaled from the body during emotional excitement. A young lady, suffering from sick headache, smelt of Lemburg cheese. At present, all that we can say is that the peculiar odours referred to are the result of nervous disturbance.—London Med. Record.

### PURE UREA IN THE BLOOD DOES NOT CAUSE CONVULSIONS.

MM. Feltz and Ritter (Bul. Gén. de Thérap., 1878, p. 416) have presented before the Académie de Sciences a note relative to certain experiments which they have made upon the urea as the alleged cause of uræmic convulsions. Their conclusions are as follows: 1. Pure urea, artificial or natural, injected into the venous system in very large amounts never causes convulsive symptoms: it is rapidly eliminated by the secretions. 2, There are no ferments in normal blood which might convert urea into the ammoniacal salts; rapidity of elimination cannot be held responsible for this non-conversion, for by suppression of the renal secretion elimination of urea may be retarded without hastening the supervention of eclampsia. 3. Ureas which in large doses give rise to convulsions are always impure, containing ammoniacal salts whose presence may easily be demonstrated by Nessler's re-agent.

### CURIOUS TRICKS WITH THE CLINICAL THERMOMETER.

A Berlin journol, quoted by the *Chicago Medical Journal*, says that Dr. Sellerbecker had a female patient who managed to raise the temperature in the axilla two degrees above that of the rectum. She did it by drawing her chemise around the bulb and producing friction by rapid respiration. The doctor tried the experiment with himself, and found that, when his skin was perfectly dry, he could raise the temperature to 107.4° in three minutes.

### EXCRETION OF ALCOHOL BY THE KIDNEYS AND LUNGS.

Professor Binz, of Bonn, with the assistance of Herru H. Henbach and A. Schmidt (Archiv. f. Exper. Pathologie, vi. 287,)

has lately re-examined this question, using Geissler's vaporimeter for the detection of small quantities of alcohol in the urine, instead of the ordinary chromic acid or iodine reaction, and the same method for the pulmonary vapor, the latter being previously condensed by passing the breath through a series of Wolff's bottles containing cold distilled water, or through a Liebig's condenser, With the vaporimeter as little as 0.05 per cent. of alcohol can be detected, though certain precautions, fully described in the original, are necessary for its accurate use. Admitting all possible errors, experiments on the urine of six patients with various febrile affections (erysipelas, pneumonia, phthisis, etc.) showed that, during a period of eight or nine hours after a given dose of alcohol had been taken, not more than 3.1 per cent., or at the highest computation 6 per cent., escaped by the kidneys, while in some determinations no alcohol at all could be discovered in the urine. With regard to the excretion by the lungs, it was found that if from thirty to sixty cubic centimetres of pure alcohol were drunk diluted with syrup, and the patient's breath were condensed continuously for one or two hours, and the product examined either immediately after the ingestion of the alcohol, or at any time within six hours, not a trace of alcohol could be found in it. Even assuming that alcohol ingested required fifteen hours for the whole of it to evaporate by the lungs, the vaporimeter method was delicate enough to detect the fraction of it which would have escaped during the progress of the experiment. The idea that alcohol is present in the breath after wine or spirits have been drunk depends on the odor imparted by the presence of various ethers, fusel oil, etc., and not of alcohol. A quantity of pure diluted alcohol, equal in volume to half a bottle of champagne, may be drunk without tainting the breath in the least; and alcohol may be subcutaneously injected with the same result, though it is immediately detected if a little fusel oil is added to it first.

Reasoning from analogy, Professor Binz and his assistants regard it as improbable that the skin should eliminate alcohol, if the lungs, which are so much better constructed for excreting it, do not do so. They conclude, therefore, that by far the larger part of any ingested alcohol is disposed of within the

organism in the process of tissue change.

### THE CÆSAREAN SECTION IN A THEOLOGICAL ASPECT.

A medico-theological question has been lately agitated in the French journals in reference to children extracted by the Cæsarean operation. The performance of the rite of baptism has been hitherto restricted to those children that have presented any signs of life after removal from the body of the woman. This is also the rule in England. In France, the operation appears to have been recently performed as much for the purpose of procuring a subject for baptism, as for the saving of the life of the child. Judging by a case which is reported to have occurred at Champoly, the life of the woman is of secondary importance under these circumstances. A woman named Dumas is said to have died from the Cæsarean operation performed on her by a pork-butcher, under the direction of a priest. There was an inquiry, but it came to nothing. The reclamations of the press and the remonstrances of the profession have had no effect. The sole object of the priest was to have the child removed by extraction, in order that the rite of baptism might be performed on it; and he doubtless selected a non-professional operator from the difficulty of finding a member of the medical profession to assist him in his views. Dr. Depaul, an eminent obstetric surgeon, in commenting upon the facts of the case, truly states that the conduct of both persons was illegal. Had such a case occurred in England, it would have led to a trial and conviction for manslaughter. In dealing with the theological question, De baptizandis parvulis, Dr. Depaul makes a few observations which may be of use to medical practitioners on these occasions. A medical man must not surrender his judgment for the performance of this operation to the dictation of a priest or any other person. If he perform the Cæsarean section, he must perform it on his own responsibility and on reasonable grounds, such as would be sanctioned by professional practice. It is a delicate question whether it should in any case be performed on a living woman, as it might accelerate her death. If performed in advanced pregnancy, within a quarter of an hour after death, the child may be equally removed living. The safety of the woman should in these cases predominate over all other considerations. The operation may cause the immediate death of a woman, and this act of vivisection would not be justifiable merely for the sake of baptising a child which might die immediately after its extraction from the uterus. In France, it is much more common to operate on a living woman than in England; but the English law, which allows a husband to inherit the property of his wife, renders it a necessary condition that the child must be born or extracted while the woman is living. Hence it is to the interest of the English husband to have the child extracted from his wife before her death. Medical men have nothing to do with the theological questions connected with this subject. They are of greater importance in Roman Catholic than in Protestant countries. The text of the law in France is, that a child can only be baptised after its birth, and the moment of its birth is indicated by its appearance in the light of day, whether this appearance be the result of natural or violent causes—i. e., by delivery or the Cæsarean extraction. Theologians do not admit that baptism can be performed on the child in utero through the abdomen of the mother; and it is a moot point whether, in partial delivery, it can be performed

unless the head of the child is presenting. The Academy of Medicine have had this subject under discussion, but they have come to no formal resolution. They discourage the performance of the operation on living women; and, even in reference to the dead, they advise that it should not be performed unless the child is viable, or unless it has reached such a stage of gestation as to enable it to live after its extraction.—Brit. Med. Jour,

### TREATMENT OF HICCOUGH.

Dr. Favier reports a case of very obstinate hiccough that had lasted without interuption for fifty days, and was finally cured by compression of the epigastrium. The patient had been treated by blisters and sprinkling of the denuded cutis with morphine, by punctiform cauterization of the epigastrium with the hot iron, by injections of morphine, by ether, bromide of potassium, chloral, etc., all of which proved utterly useless. Finally, Dr. Favier determined to try the effect of forcible

Finally, Dr. Favier determined to try the effect of forcible compression of the epigastrium by means of J. L. Petit's tourniquet. Five minutes after the instrument was applied the hiccough had ceased. It reappeared at first whenever the compression was suspended, but finally disappeared entirely. The Doctor adds that, as he had no electric apparatus, he was unable to try the effect of faradization of the phrenic nerves.—La France Médicale, May 1st.

### ANOTHER ECTROTIC IN SMALL-POX.

The powder consisting of four parts sulphur and precipitate, employed by Semaria with such success in eczema and acne, will, he now claims, prevent the unsightly cicatrization after variola. The suppurating pustules are to be first penciled with glycerine, and the powder afterward thickly strewed over them. The crust thus formed is cast off without leaving behind any cicatrices.—Gazette Med, Ital, Lomb.

### ELASTIC CRAYON OF NITRATE OF SILVER.

M. Pajot takes a laminaria tent, two millimeters in diameter, dips it into thick mucilage, and then rolls it in finely powdered nitrate of silver, and allows it to dry. He thus obtains an elastic crayon, of the ordinary size, which may be introduced into the uterus without fear of breaking. He believes this means to be applicable to other cavities, and for other more powerful caustics.

# WHITWELL ON HOT WATER INTRA-UTERINE INJECTIONS TO ARREST POST-PARTUM HÆMORRHAGE.

Dr. W. S. Whitwell gives the history of the origin of this treatment in the Lancet, June, 1878, p. 920. Having seen,

during the years of 1874-75, in Dr. Emmet's practice in New York, the value of hot water vaginal injections in all pelvic inflammations, he on one occasion noted the great influence it exerted in checking hæmorrhage after partial removal of a

sarcoma from the fundus uteri.

In August, 1875, Dr. Whitwell first attempted to check severe post-partum hæmorrhage by injecting hot water into the uterus, with immediate success, and subsequently he has used it with unfailing good results. The advantages of this treatment are thus summed up. 1. It is easily attainable; 2. It is absolutely safe, if care be taken to exclude air from the syringe; 3. It stops hæmorrhage, not by artificial plugging, but by causing a natural contraction of the womb; 4. It is cleanly, and a disinfectant, such as carbolic acid, can easily be added; 5. By imparting heat, it rallies an exhausted patient, and gives power to the muscles for contracting, instead of, as is the case with ice, abstracting what little heat remains, and so benumbing and paralysing.

The Medical Times and Gazette, August, 1878, p. 159, in a report of a paper by Dr. Windelband, of Berlin, gave an account of this treatment, which had been found applicable

to all kinds of uterine hæmorrhage.

Dr. Runge, in a paper in the Berliner Klinische Wochenschrift, March, 1877, also testifies to the great value of the treatment. At the Rotunda Hospital, in Dublin, under Dr. Atthill's care, the injection of water at a temperature of 110° forms the

routine treatment in all suitable cases.

M. Ricord, in the *Union Médicale*, June 5, 1877, writes: "Hæmorrhage in general, and metrorrhagia in particular, whatever be their proximate cause, are, as is well known, very frequently difficult to arrest. Hæmostatics internally, astringent injections of every kind, plugging, etc., generally fail. But one means has almost had infallible success in my hands, viz., the injection of hot water at 50°C. (122° Fahr.) carried directly against the cervex uteri by aid of a tube of an irrigator, from which the caoutchouc canula has been removed.

In the reporter's practice several cases of severe menorrhagia, previously treated with varying success with large doses of secale, gallic acid, ergotin, by all methods, liq. vincæ, cannalis, oxide of silver, etc., have readily yielded to hot vaginal injections, or to hot applications to the loins, as originally suggested by Dr. Chapman in an instructive paper contributed to the Medical Times and Gazette, December, 1875, p. 649. This gentleman therein comments upon two cases treated by Dr. Noël Gueneau de Mussy, in which singular and untoward effects resulted from the application of water, too hot, to the spine, Dr. Chapman advising the temperature to range between 115° and 120° Fahr. In the Bulletin de Thérapeutique for September 30, 1877, Dr. Bailly advocates the use of warm baths, about 93° Fahr., employed for twenty to thirty minutes in all kinds of

uterine hæmorrhages, but more especially in that form occurring after labour, which he designates "secondary puerperal hæmorrhage," coming on from the second day to a month. In conclusion, the application of heat by hot enemata has frequently proved in the reporter's practice equally valuable as other methods and freer from objections, seeing that the prejudices of both patients and friends are often greatly shocked at the idea of hot baths and poultices, whereas one can more easily induce them to wash out the bowel with hot water enemata, when the result quoad the uterine hæmorrhage is frequently most gratifying.—Rep.]

### GOOLDEN ON THE THERAPEUTICS OF SULPHATE OF MANGANESE.

Dr. R. H. Goolden (Lancet, June, 1878, p. 882) first employed this drug in 1840, having noticed Dr. Pereira's account of the post-mortem appearances in rabbits after poisonous doses, the stomach and intestines being found filled with pure bile. Ten grains in a tumbler of effervescing citrate of magnesia act as an efficient cholagogue. Combined with chalybeates, it enables these latter to be borne by many anemic patients who otherwise could not take them. Dr. Goolden has used this salt extensively for the last thirty-five years.

### COLE ON CARBOLIC ACID IN PERTUSSIS.

Mr. G. W. Cole writes from New Zealand (*Lancet*, May, 1878, p. 777) extolling the use of carbolic acid both internally and by inhalation in the treatment of this disease. Several cases are given in support of his views, where both children and adults rapidly lost their coughs after the use of the agent.

### RELATION OF UREA TO CONVULSION.

(Academy of Sciences in Paris, April 15.)

MM. V. Feltz and E. Ritter communicated experiments to show that pure urea never brought on convulsive symptoms.

Urea injected into the blood was eliminated very rapidly by the urine, and when it existed in considerable quantities in the organism it did not, as generally supposed, undergo a rapid transformation into carbonate of ammonia. Dogs into which urea was injected, after the renal vessels were tied to prevent the rapid elimination of the poison, showed no more marked convulsive symptoms than others in which the same ligature was made without the injection. The convulsive symptoms observed with urea were produced by an impure substance containing ammoniacal salts. The authors summed up in the following conclusions. 1. Pure urea, whether natural or artificial, injected into the venous system in large quantities, never brings on convulsive symptoms; it is rapidly eliminated by the secretions. 2. There are no normal blood which convert the

urea into ammoniacal salts. The rapidity of elimination cannot be regarded as the cause of this non-conversion, for by the suppression of the renal secretion the elimination of the urea may be retarded without accelerating the supervention of the eclampsia. The urea which in large doses brings on convulsions, is always impure urea which contains ammoniacal salts, which are easily shown to be present by Nessler's reagent.

Charbon.—M. Toussaint presented a note on the action of bacteridia in charbon. In anthracoid infection, three modes of penetration of the virus might be present—1. Inoculation; 2. Direct transmission into a vessel by injection; 3. Penetration followed by vascular ruptures. In these three cases, said the author, the bacteridia gradually reached the tissues adjacent to the spot where they had made an entrance, filled the vessels and the lymphatic glands, and so penetrated into the interior of the tissues and the vascular system.

### TREATMENT OF BLENNORRHAGIC CONJUNCTIVITIS.

Prof. Gosselin, of Paris, treats his cases of blennorrhagic conjunctivitis, when seen before suppuration of the cornea has set in, by instillations of alcohol. He first cleanses the surface of the conjunctiva by injecting a stream of cold water, with moderate force, under the eyelids, and then instils into the eye a few drops of a mixture containing one part of alcohol at 90° and four parts of water. This process is repeated every three hours. In the intervals the eye is kept constantly covered with compresses wrung out of cold water, and is frequently washed with the same. When the suppuration is very free the injections of cold water under the eyelids may be repeated oftener than every three hours. Prof. Gosselin believes that this treatment arrests the suppurative more rapidly than any other, and it has, at all events, proved the most successful in his hands. The power of alcohol to moderate and even prevent suppurative inflammation has been well demonstrated, and he uses it not only in cases of suppurative conjunctivitis, but also in the treatment of wounds, whenever they are sufficiently superficial to permit him to hope that they can be made to heal without suppuration. In dressing wounds of the head in particular, he always used alcohol. After the suppurative process in the conjunctiva has ceased, the chemosis sometimes persists, and may require incision, or even excision. A prolonged course of treatment with nitrate of silver or sulphate of copper may also be necessary to prevent the formation of granulations in the conjunctiva.—Receuil d'ophthalmologie, April.

### TREATMENT OF INTERTRIGO IN CHILDREN.

Dr. Wertheimber recommends the external use of a solution of corrosive sublimate (gr. i. to 3 iijss. water) for the intertrigo of children, and asserts that it is the most effective of all the

remedies recommended for that affection. The affected spots are covered with pieces of lint soaked in the solution. Sometimes it is sufficient to keep these compresses on for an hour at a time, three or four times a day. The curative action is very rapid, the reduess and exudation often disappearing in 24 to 36 hours. General symptoms, due to the absorption of the drug, have never been observed by Dr. Wertheimber; the danger of absorption is not great, as the applications do not, as a rule, need to be continued more that a few days. When the improvement is pretty well advanced, diachylon oiutment may be substituted for the solution.—Berliner klin, Wochenschrift, No. 15.

### THE MICROPHONE IN MEDICINE.

In this age of invention and of marvellous discovery the future possibilities of our profession seem immeasurably widening, especially as regards the early and definite recognition of pathological conditions. The application of the principles of acoustics to diagnosis, the addition of the stethoscope to our means of examination, the almost mathematical accuracy with which the majority of cardiac and pulmonary lesions may in this way be determined, are still subjects of pride and of congratulation with us, when the whole field of physical exploration is suddenly broadened by the discovery of Professor Hughes, that acoustic waves may be almost indefinitely magnified by transformation under certain conditions into electric waves, and that in this way millions of sounds to which we have always been absolutely deaf may be rendered clearly audible. Eager experimenters are already at work, and although practical difficulties still exist, it does not seem visionary to suppose that in a short time many new sounds, normal and abnormal, will become familiar to us, and that, as a consequence, many deviations from health, heretofore only recognized by their resulting organic changes, may be detected. and possibly arrested, at a far earlier period. We find on the one hand Dr. Richardson, of London, examining and noting the heart-and lung sounds with the aid of the microphone. and, on the other, Sir Henry Thompson lecturing on the use of the microphone in searching for stone and in probing for bullets or for diseased bone. When we remember that by means of this instrument the crawling of a fly over a piece of gauze may be rendered as audible as the tramp of an army, or its breathing as distinct as the bellowing of a leviathian, we can already look forward to treatises on the sounds of inflammation and the rhythm of fevers; the harmonies of health and the discords of disease will no longer be fanciful similes, but scientific facts, and the poet's assertion that "there is in souls a sympathy with sounds" will be philosophically verified.

### SECTION OF NERVE FOR ELEPHANTIASIS.

Dr. T. G. Morton tied the femoral artery for elephantiasis of the right leg in 1873 with some apparent benefit; the patient considered himself improved and thought the operation had arrested the progress of the disease. On readmission to the hospital in 1877, the leg was found to be double the size when last seen, measuring twenty-one inches in circumference, and the man desired amputation. "Having noticed the frequency with which operations for nerve section are followed by atrophy, Dr. Morton attempted to produce atrophy of the right lower extremity by section of the motor nerve of that limb."

On November 17, 1877, the right sciatic nerve was laid bare and one and one-half inches of its length exsected at the upper third of the thigh. Nothing unpleasant has occurred, and there has been a steady diminution in the size of the limb ever since. On January 3, 1878, it was found to be but twelve and a half inches in circumference, a reduction of eight and a half inches. The skin has become soft and pliable; it has not ulcerated, and the lost sensibility is confined to the anterior portiou of the dorsum, all of the sole of the foot, and a strip about two inches wide on the back of the leg. To Dr. Morton alone is due the credit of conceiving and executing this novel and successful operation for the cure of this most troublesome and intractable affection.—Phil. Med. Times.

### ON THE MODE OF DISSEMINATION OF ACUTE MILIARY TUBERCULOSIS.

Since the publication of Buhl's theory, the development of general tuberculosis is ascribed to a supposed virus, which forms in some deceased mass in the organism, finds its way in the circulating fluids, and produces by dissemination numerous secondary nodules. This theory is supported by weighty clinical, anatomical, and experimental facts, but no investigator has as yet succeeded in demonstrating the infectious substance either in the blood or in the multiple eruptions. It is exceedingly probable that the poison finds its way into the blood through the medium of the lymphatics; in fact, tubercular nodules have frequently been met with in the adventitia of the lymph-vessels, in immediate contact with caseous masses. In the hope of throwing some light on this subject, Prof. Ponfick has subjected the ductus thoracicus to careful examination, in a number of cases of localized and general tuberculosis. He found the duct normal in all the cases in which the tuberculosis was localized in the clinical and anatomical sense of the term, but in the majority of the cases of general tuberculosis it had undergone a peculiar alteration. This consisted in the development of usually multiple, small, tubercle-like nodules in its intima. The development of the nodules in this situation is unquestionably an evidence that the lymph which passed

through the duct was exceedingly abnormal, that it contained some specifically irritating constituent. It furnishes a tangible proof—and up to the present time the only one—of the contamination of the circulating fluids with a substance, of whose nature we are as yet ignorant, but of whose existence there can no longer be any doubt.—Berliner klin, Wochenschrift, 1877, No. 46.

### CHRONIC AURAL DISCHARGES.

Professor J. J. Chisolm read a paper on Chronic Aural Discharges at the Baltimore Academy of Medicine, in which he stated that the recognition of chronic otorrhea was an opprobrium to the profession. Physicians feeling their inability to check the discharges, and in order to escape annoyance, often recommend that children be allowed to outgrow them. Dr. Chisolm stated that cleanliness alone would cure the most obstinate case, as it was the decomposed matter which excoriated the middle and outer ear. An offensive ear always meant a foul ear. Warm water and a syringe (a small bag syringe being the best) were the cleansing means, the outer ear being drawn outward, backwards, and upwards to straighten the meatus. After this the usual astringent prescription of sulph. zinc and carbolic acid aa grs. iii to water f \( \) i, would be found effectual. For the more chronic cases, alum powdered and mixed with powdered lycopodium, to prevent caking, is the best application. After thoroughly cleansing and drying the ear, the powdered alum is blown through a quill or from a puffbottle into the ear. After a few daily applications he has checked aural discharges of many years existence. One great advantage of the alum-powder treatment is that it can do no harm. Since adopting this treatment, he finds the most rebellious discharges from the drum cavity yield kindly, and that aural discharges, however chronic, are more amenable to treatment than any other class of chronic affections.—Virginia Med. Monthly.

### ERGOT OF RYE IN THE TREATMENT OF POLYURIA.

In a case reported by Dr. Rendu the polyuria was accompanied by supra-orbital neuralgia, vertigo, with loss of consciousness, excessive thirst and hunger, with emaciation and loss of strength, although the patient consumed a considerable quantity of food. The urine contained no trace of sugar, the quantity was about ten quarts a day. The urea eliminated by this means in the twenty-four hours amounted to from about 1,250 to 1,400 grains. Before having recourse to ergot of rye, tincture of valerian was first tried for this patient, in the dose first of fifteen minims, and soon after of half a drachm. Under the influence of this treatment, the

urine diminished by nearly a quart. Sulphate of atropine in the dose of one milligramme (·015 grain) at first, then two daily, produced a similar improvement; but no advantage was found in persevering in this course, since the appetite diminished with the valerian, and the thirst increased with atropine. Ergot of rye was then tried, and the success with this agent was remarkable. In eight days the urine fell to fifteen grammes in the twenty-four hours, the emaciation was stopped, the strength returned, whilst the thirst and the excessive desire for food also disappeared. (British Medical Journal, April 13, 1878, and France Médical, February 27, 1878.)

### CAUSES AND CURE OF INSOMNIA.

Dr. Sawyer observes that insomnia is one of the commonest complications and consequences of a vast variety of morbid states. Pyrexia, physical pain, coughing, dyspnœa are all conditions which prevent or shorten sleep. Such insomnia may for the most part be controlled either by the exhibition of remedies which directly promote sleep (hypnotics), or by the adoption of measures which combat the cause of the insomnia. by reducing fever, by palliating the pain, by checking cough, or by relieving cardiac disturbance. But there is another form of sleeplessness, which may be called insomnia per se, or simple inability to sleep, for which it is difficult to find an adequate cause, but which seems to depend on inability on the part of the brain and nervous system generally to adapt themselves to the conditions that are requisite for sleep. It is more common in the upper middle class than amongst others, and especially in those of high mental endowment. There are, he thinks, three varieties of this form, psychic, toxic, and senile. In natural sleep the brain is an:emic and inactive, hence any cause that prevents due repose of a sufficient number of the cerebral cells, or sustains cerebral hyperæmia, will prevent sleep. Examples of psychic insomnia may be found where severe and sudden emotional shocks or prolonged mental strain affect men of nervous temperament. The patient is dull and listless, the eyes wanting in vivacity, complexion sallow, headache is present with occasional giddiness and disturbances of the senses, twitchings of the muscles. In toxic anæmia the cause of the sleeplessness acts primarily upon the vessels of the brain, giving rise to some degree of arterial hyperæmia. The external poisons thus acting are tobacco, alcohol, tea and coffee; the internal are certain effete products of tissue metamorphosis which accumulate in the bodies of gouty patients, or of those whose kidneys act deficiently. The insomnia of these cases he believes to be due to the maintenance of a state of high tension in the cerebral arteries. In the senile form of insomnia the sleeplessness is due to senile degeneration of the smaller cerebral arteries, which are physically unable to

adapt themselves to the condition of relative arterial anæmia, which is requisite for healthy sleep. In the treatment of insomnia soporifics must often be used. Of these the chief are chloral, opium, morphia, the bromides, Indian hemp, alcohol, and affusion with cold water. In psychic insomnia Dr. Sawyer preters chloral. Change of air and scene and rest are essential. In the well-nourished, bromide of potassium is the best hypnotic, in 30-60 grain doses, combined with tincture of ergot or of digitalis. Overworked men are often anæmic, and require iron, with a little alcohol, at night. Exercise may generally be enjoined. In gouty lithiasis, with a pulse of high tension, he has confidence in the curative effects of colchicum, supplemented by the use of dilute saline purgatives, such as Pullna, Friedrichshall, Hunyadi Janos, or Rakoczy waters. Senile insomnia is very obstinate, but perhaps in the bromides. with full doses of hops or henbane, we have the best and least harmful means for its relief. (Lancet, June 15 and 17, 1878.)

### THE USE OF THYMOL IN SURGERY.

The employment of thymol as a substitute for carbolic acid in surgical dressings is a natural consequence of the discovery of its greater antiseptic and less septic power. A lecture on the subject has been published in Volkmann's series by H. Ranke, of Halle. The solution used instead of the three per cent. solution of carbolic acid consists of one part thymol, ten parts of alcohol, twenty of glycerine, and a thousand of water, and can be employed as either a spray or a solution. An impregnated gauze is also used. Since thymol does not irritate the wounds, the gauze may be laid directly upon it; otherwise the same method is employed as in Lister's plan. If the gauze becomes hard and dry, it may be moistened once or twice a day with thymol water. In order to prevent the evaporation of the thymol from the dressing, the gauze is covered with oiled paper. From an experience of forty-one wounds dressed with thymol, the lecturer concluded that the method leaves nothing to be desired as to its antiseptic effect, and that it answers better than the carbolic-acid dressing, since the secretion from the wounds is less, the period of healing shorter, and the cost of the dressings is smaller. Further, it has no poisonous properties, and eczema was never observed in its use.—Lancet.

### THE ETIOLOGY OF MEMBRANOUS DYSMENORRHŒA.

At a meeting of the Obstetrical Society of London, Dr. Cory recorded a case which strongly supported Dr. Hausmann's view, that such are due to imperfect impregnation. The patient, previous to her marriage, at the age of thirty, had never passed any membrane. She aborted three times, between the second and third months, during the first two years of married life. Since then she had almost invariably passed, at her men-

strual periods, membranes, which proved to be very perfect casts of the uterine cavity, and presenting all the naked-eye and microscopical appearances of its mucous lining. The membrane usually came away on the second day of menstruation, previous to which the dysmenorrhœa was acute. Later on she lived apart from her husband for nine months, during which time see had menstruated regularly without passing any membrane.

THE DETECTION OF BRIGHT'S DISEASE, BEFORE THE APPEARANCE OF ALBUMEN IN THE URINE.

By H. S. Schell, M. D., Surgeon to Will's Hospital, Philadelphia.

During the last few years my observations have convinced me that, in some instances, it is possible to diagnose degenerative disease of the kidneys, by means of the ophthalmoscope, before any of the symptoms which are usually relied upon have

presented themselves.

One of the first cases which drew my attention to this subject was that of Mrs. M. T, a lady of sixty-two years of age, and a resident of a rural village in the interior of the State. While she was on a visit to her daughter in this city, in November of 1874, she consulted me with regard to failing vision. She had found that for a month or so previously her glasses no longer enabled her to see plainly, and she could find no spectacles at the opticians to improve her sight. Her vision proved to be city in both eyes. An ophthalmoscopic examination revealed slight degenerative changes in the crystalline lenses, but not enough to prevent an accurate examination of the deeper structures.

Clustered on and around the maculæ luteæ, were about twenty minute white spots. They glistened in the reflected light, and looked as if situated in the anterior layers of the retina. The clusters were each about two-thirds of the size of the optic disks, and, as nearly as could be judged, exactly alike in the two eyes. Three or four other small spots were scattered along the course of the retinal vessels, but otherwise the retina was clear, transparent, and not swollen. Although she had no other symptoms of Bright's disease, I requested an examination of the urine, and, to my surprise, found neither albumen nor casts. With the exception of a slight gouty tendency her health was quite good.

I saw this lady subsequently, at irregular intervals of a month or two, for nearly two years, and although in that time I made careful and repeated examinations of the urine, both chemically and microscopically, I was never able to detect a trace of albumen, nor a single tube cast, until in July of 1876.

I then found that the changes in the crystalline lenses had remained stationary, that her vision had improved to  $\stackrel{20}{\sim}$ , and that the white spots had almost entirely disappeared from the

retina. Her ankles now, however, were slightly ædematous, and the urine contained a trace of albumen and a few hyaline casts. I have not seen her since, but I hear that she is still living in the country, although her health is manifestly failing.

Another case was that of Elizabeth S., aged 60, whom I first saw in August, 1877. Her sight had failed three weeks previously, and at the time of examination her acuity of vision equaled  $\frac{20}{Lx}$ . There was not the slightest evidence of kidney disease in her urine, nor in her general health, but yet her retina at the fovea centralis and macula lutea displayed a collection of minute white exudations, which pointed to Bright's disease. Œdema of the ankles, in the evening, first made its appearance, in her case, in two months afterward, and was even then unaccompanied by albumen in the urine, although a few short, granular cast were to be found. Since then I have lost sight of the case, and do not know its result.

Another somewhat similar case was that of a tavern keeper, aged 55. In this instance, at the first examination, a cluster of hemorrhagic spots were seen at the macula, and several in the course of the vessels. These all changed, in a week or ten days, into the white spots before described. Albumen was not detected in the urine until a month after the first examination.

Two other cases of similar glistening, white specks at the maculæ, occurred in women of 57 and 60 years of age. In the last instance cataract was commencing to form in the right eye, but the fundus could still be réadily seen. The urine was free from casts or albumen in both cases, and as I saw the women but once I can say nothing of their subsequent history.

In none of these cases, I regret to say, have I used the test for the blood extractives proposed by Dr. Owen Rees, in *Guy*'s *Hospital Reports*, 3d series, vol. xiv, or that for bæmoglobin used by Mr. Mahomed, *Medico Chirurgical Transactions*, vol. 57.

In all the cases above narrated the retinal arteries appeared to be normal in regard to size, as compared with the veins, and if there was any contraction, I could not perceive it. The veins were neither swollen nor tortuous. In no case was there, so far as I could detect, any disease of the heart.

It is, however, in the light of the investigations reported by Thoma, in the September and October numbers of Virchow's Archiv. for last year, that these cases assume particular interest. This observer made a variety of comparative experiments upon the anatomical and physiological conditions of the

granular and of the healthy kidney.

He first endeavored to ascertain the relative amount of flow which would take place through the renal vessels in the contracted and in the sound organ. The measurements were all taken under equal conditions as regards the age of the individuals and the amount of pressure used. He found that the volume of fluid which could be passed through the diseased organ was

much less than through the healthy one, as the lessened size of the kidney would naturally lead us to expect. In addition to this, however, it transpired that the amount of liquid issuing from the renal vein, as compared with that entering by the renal artery was, in the granular kidney, much less than in health; indicating probably a greater outflow through the tubules in the diseased condition.

Very careful comparative measurements of the various parts of the healthy and the granular organ showed that the sectional area of the renal artery in the latter is very slightly smaller than in the former, in persons of the same age and weight. But if the size of the kidney itself is made the standard of comparison, then the diseased artery is from a fifth larger to twice as large as the sound one. The interlobular arteries, the vasa afferentia and the glomeruli are all absolutely larger. The rapidity of the circulation of liquids through the arteries of the diseased was less than half that of the normal organ. On the other hand, injections of colored fluids transuded more readily through the walls of the arteries in the granular than in the sound kidney, and this obtained even when the vessels were apparently healthy. Colloid substances, saline solutions, and even solid particles of coloring matter, also passed easily through their walls. The capillary network proved to be much atrophied, and direct vascular connection took place between the afferent and efferent vessels, the glomeruli being often cut off from the circulation by constricting bands of fibrous tissue growth. As a general rule, notwithstanding the fibroid growth of the intima, the lumen of the vessels is not diminished. A contraction may take place, of course, when there is endarteritis superadded.

All this is opposed to Gull and Sutton's theory, that the narrowing of the vessels by new growth causes the obstruction to the circulation. It shows that the vessels in granular kidneys are not of less than the normal calibre, and that the obstructions to the circulation are outside of the arteries, in the connective tissue of the kidney. Such changes, however, as do take place in the walls of the vessels, lead to increased permeability of their coats, and hence we have a greater flow of urine and

albuminuria.

These same changes probably also go on in the vascular walls in other parts of the body, and as the retinal arteries are so favorably placed for clinical observation, we might naturally expect to find new conditions in connection with them, even before sufficient alterations have taken place in the structure of the kidney to call attention to disease there. Besides this, the retinal arteries, lying as they do in the nerve fibre layer, with no support on one side but the nearly fluid vitreous, would more readily show the effects of increased permeability of their walls that those vessels which are imbedded in solid tissues. The eye, even in health, is subject to variations in its tension

or the pressure of its contents. When the vessels are sound, such increase or lessening of the tension of the globe takes place without causing any more than the natural transudation or absorption of the humors of the eye. But if the vascular coats become abnormally permeable, we cannot but infer that lessening of the ocular tension would be followed by the extravasation of blood, and especially from the delicate loops about the macula lutea. Such extravasation may, according to circumstances, be absorbed before the eye comes under observation, or, what is more likely, may end in the formation of the exudative products described in the cases above related.

1802 Chestnut street.

-Philadelphia Medical and Surgical Reporter.

# MINUTES OF PROCEEDINGS ORLEANS PARISH MEDICAL SOCIETY.

FIFTH MEETING, JULY 29TH 1878.

The Society convened in monthly meeting, seventeen members present; Dr. Herrick, Vice President of the 1st and 5th Districts, in the chair.

In the rotation of cases and medical news, Dr. Henry spoke of a number of cases of bilious fever, which had recently occurred in his practice, with the temperature seldom above 102° Fahr. The fever was uncontrolled by quinine, but yielded more readily to mild purgatives and tonics.

Dr. Herrick stated that on the 12th inst. the first report of a case of yellow fever was entered at the office of the Board of Health. Thereupon Dr. Bemiss gave the synopsis of a case, to which he was called on the 11th inst., as being, probably, the first case of the fever in the city, of this year.—The child, aged 4 years, and 2 months, resided at 155 Constance street. On Sunday, the 7th inst. visited a house on the corner of Trémé and Conti streets., just two squares from where Mr. Clark, the purser of the Emily B. Souder died, and was taken sick on the following night. However, next morning, visited the corner of Camp and Girod streets. Child feverish during the day

Monday. A dose of castor oil was given, followed by various domestic remedies. Tuesday, the condition of the child unchanged. Wednesday night, restless and feverish. On Thursday, the morning of the first visit, the symptoms were those of malarial fever, distinctly remittent, but irregularly so,-tongue coated and moist, administered ten grains of quinine in broken doses. Friday morning, tongue clean, no fever, child playful. Friday evening, stomach irritable, vomiting, bilious ejections. with streaks of dark looking blood, not like black vomit in being less diffluent and containing blood clots, which could be teased out; administered ten grains of quinine by enema. Saturday, child became yellow and delirious. On the 18th inst., in consultation with Dr. Choppin, President of the Board of Health, diagnosed hemorrhagic malarial fever. On the same morning there was profuse bleeding from herpetic eruptions on the lip, also from a scratch on the ear. The eyes were not injected, the gums solid and firm, the tongue nothing like that of an advanced yellow fever patient. Some hours later in the same day, the child threw up black yomit, was seized with convulsions and died. The last symptoms were regarded as unmistakably those of yellow fever.

Dr. Herrick said that, in his experience, the symptoms of yellow fever in children were more apt to be masked and obscure.

Dr. Pratt cited twenty-three cases of yellow fever admitted into the Charity Hospital from the 21st inst. to the present time, and spoke of the marked malignancy of the early cases. Dr. Pratt asked information upon the following case related.—A servant girl, slightly indisposed in the forenoon, while attending the dinner table, was suddenly seized with violent pain in the head and back. Later in the same day, there was slight febrile reaction, with intense cephalalgia and backache. On the morning of the next day, temperature 98½° Fahr., pulse 60, eyes suffused, tongue coated in the middle with the edges red. On the following day, temperature normal, pulse slower still, stomach irritable and patient extremely prostrated.

Dr. Davidson recognized the features of Dr. Pratt's case, and associated it with a type of fevers recently observed in the

4th District, like the malarial fevers in some respects, but resembling more closely the dengue fever, in the suddenness of the invasion, high temperature, intense neuralgias, headache and breakbone pain in the back and limbs. The first case treated was that of a youth in whom the symptoms were at first so violent as to justify a suspicion of yellow fever. The temperature, 1043° Fahr., pulse 120, tongue coated in the center—patient very restless, Ten hours after the first attack, temperature 102° Fahr., pulse 110, Morning of the second day, temperature 100° Fahr., pulse 100. Night temperature 99° Fahr., pulse 99. On the following morning, temperature normal, pulse 60, no appetite, great prostration. This case was related as an example of a number of cases just alike, in which the fever continued from 24 to 36 hours. Quinine exerting but little or no influence, the cases were treated with mild purgatives, neutral mixture, with the tincture of gelseminum, cold applications to the head, etc.

Dr. Layton related a case of yellow fever occurring in a native of New Orleans, residing on the corner of Philip and Constance streets. The patient fell sick on Tuesday, the 16th inst, The symptoms of the disease were detailed as being typical.

At the time of the report, the case was convalescent on the thirteenth day of the illness.

Dr. Henry asked about the temperature of the yellow fever cases in the Charity Hospital.

In reply Mr. Fred W. Parham, interne of the Hotpital, in charge of the yellow fever ward, an invited guest of the meeting, stated that the temperature in some cases remained for some time above 104° Fahr.—in some never below 103° Fahr., in some the decline of temperature was gradual from the highest excerbation to the normal standard, in others remissions were well marked.

Dr. Davidson spoke of the practice of blanketing yellow fever patients to promote profuse perspiration as being a harmful one.

Dr. Lewis replied that he had learned this plan of treatment from the older practitioners of the 3d District, and, in 1867, pursued this practice with entire satisfaction, obtaining results which compare favorably with others. His plan of treatment in the epidemic of 1867 was to keep the patient absolutely quiet and recumbent in bed, with the body closely covered with two or three blankets, to make frictions of the skin with cologne water, etc., to interdict all nourishment for five or six days, until the fever disappeared, and to adminster quinine in large doses—thirty or forty grains a day—many of his patients taking, during the course of their illness, from three to four hundred grains of the sulphate of quinia. To his plan of treatment he ascribed the fact that, in 1867, he did not see black vomit occur in as many as four cases, except in those seen for the first time, in a dying condition.

He cited two cases of the fever successfully treated, in 1867, upon the abortive plan of Dr. Fenner.

Dr. Bemiss considered the sweating process, so denominated, a perilous practice. He thought us too apt, in the treatment of some diseases, to look for a single avenue of elimination,—thought safety depended on the integrity of a number of functions, and attributed Dr. Lewis' success to the absolute quiet enjoined, not to the sweating.

Dr. Schmidt spoke next, of the yellow fever poison, its absorption into the blood, its action as a blood-poison, its elimination by the emunctory organs, and, in this connection, condemned the sweating process. He spoke of the early action of the poison on the nervous system, of the loss of tone in the walls of the blood vessels, especially in the muscular fibres of the arterioles, and to this fact attributed the tendency to congestion everywhere. He spoke of the hemorrhages which occur from the rupture of these blood-vessels, and mentioned, as an example, the little points of extravasation, found in the walls of the stomach, post mortem, which resemble punctiform apoplexies. In 1867, in his pathological examinations in most fatal cases, found meningitis, with serum in the ventricles and suborachnoid space; and, in microscopical sections of the cortical layer, while looking for spores, found free fat globules along the small arteries. He alluded to the general tendency in yellow fever to fatty degeneration, first in the liver, next in the kidneys, then in the heart. He regards yellow fever as

a miasmatic fever of an intense degree, confined, for the most part, in the larger cities, caused by germs which thrive and propagate equally well whether indigenous or imported. He sketched his plan of treatment: A mild cathartic at the outset, constant recumbent position, with light blanket covering, nutral mixture with the spt. ether nitrosi, and in all cases, as soon as the stomach will bear it, urges the necessity of nourishment, preferably the essence of beef.

Dr. Davidson again alluded to the practice of excessively sweating yellow fever patients. He paid a high tribute to the intelligence and skill of the older Creole physicians of our city, approved the practice of promoting moderate diaphoresis, but again strenuously deprecated that copious sweating, as calculated to damage the kidneys in the exercise of their function.

He spoke of the changeable nature of yellow fever, observed by himself in different epidemics, and mentioned some of the points in the treatment of past years. In 1832, 1835 and 1837 there was a remarkable number of cases characterized by frequent and copious hemorrhages. In the Charity Hospital there was a condemned ward, where these cases were gathered. Some of them recovered, and in convalescence, were transferred to other wards. In 1830 and 1831, under the system of Broussais, blood-letting was the universal practice. In these years, some of the cases were remarkable for the weak action of the heart. He recalled and recited the case of a young man, whose heart's action was so feeble that the simple act of fanning himself, in the abscence of his nurse, left him pulseless at the wrist. In 1853, under the teaching of Dr Fenner, quinine in large doses was freely administered, to the great distress of many patients. He said what was inappropriate in treatment then, in 1853, may be admissible now, in 1878. In 1867 a number of cases died of sheer inanition. The epidemic of 1867 he considered quite exceptional, because of the rapidity with which the disease became epidemic, the number of persons who recovered, and the tolerance with which quinine was borne by the patients. He had never seen so virulent a type of yellow fever as in Shreveport in 1873. Many cases occurred of only a few hours duration, with albumen

in the urine in the morning, convulsions and death in the evening. The yellow fever patients in Shreveport in 1873, bore purgation badly, many a time regretted having given a dose of castor oil. Nourishment from the beginning, especially in those cases inclined to run a rapid course was an imperative necessity. Stimulants ad libitum were tolerated without intoxication, owing to the state of the nervous system, upon which the marked effects of the blood poison were often observed.

His experience, then, since the epidemic of 1832, had taught him to modify the treatment according to the character of the epidemic disease, and to discard any absolute rule of treatment.

On motion of Dr. Pratt, the society adjourned to meet on the 12th proximo, at 7½ P. M.

A. B. MILES, M. D. Recording Secretary.

SIXTH MEETING, AUGUST 12, 1878.

The Society convened in adjourned meeting, twenty-two members present:

Dr. Herrick in the chair.

The minutes of the previous meeting were read and adopted. The order of business was reversed, and the "Programme for the Discussion of Yellow Fever," proposed and submitted by the committee at once claimed attention.

PROGRAMME FOR THE DISCUSSION OF YELLOW FEVER, AT THE ADJOURNED MEETING OF THE ORLEANS PARISH MEDICAL ASSOCIATION, MONDAY, AUGUST 12TH.

With a view to systematize the discussion of the subject designated and to afford every member of the Association the opportunity for expressions of opinion in regard to the most important points connected with the study of Yellow Fever, the Committee on Reports and Discussions, respectfull suggest that the following programme be adopted. In this programme they submit to the Association a number of questions, in order that the chairman may call for a vote to sustain or negative each question in its regular order. It is believed that this

plan will enable the Association to gain time for each member to give some expression of opinion in regard to the treatment and general management of the disease. The committee disclaim any idea of representing the opinions of the Association and reserve for themselves the right, as individual members, to vote affirmatively or negatively in accordance with their convictions.

### QUERIES

- 1. Is Yellow Fever a specific disease, in the strict sense of the word?
  - 2. Is it convertible with other specific diseases?
- 3. Does an historical identity of symptoms and of circumstances connected with its epidemic prevalence prove that its cause is specific in its nature?
- 4. Are the following facts sufficient to prove that the cause of Yellow Fever is an organism,—to-wit:
- (a.) Yellow Fever prevails only under climatic conditions which are favorable to the growth and perpetuation of organisms.
- (b.) Nothing in nature is capable of reproducing itself except an organism and the steady increase of Yellow Fever epidemics indicates successive generations or crops of the poison.
- 5. Do we know any facts which prove that Yellow Fever germs, or poison, are capable of forming combinations external to the human system with the causes of other specific diseases so as to give rise to a hybrid form of disease?
- 6. Is it miscible in the human system with other epidemic morbific agents, as malarial, scarlatinal, rubeolar, and variolar poison?
- 7. Are there any facts which indicate that Yellow Fever poison ever gains access to the system so as to occasion an attack through drinks or food, or by any other means than through the atmosphere?
- 8. Does observation teach that the limits of its range as an air borne agent are very restricted?

- 9. Does the pathology of Yellow Fever consist in the sum of effects and symptoms produced by the morbid process of its peculiar poison?
- 10. Is the first appreciable phenomenon of its pathology disturbance of the nervous system?
- 11. Is the most serious lesion of its pathology the destruction of the integrity of the blood?
- 12. Does the rapid occurrence and uniformity of this lesion prove that it is a primary effect of the poison?
- 13. Do we possess any remedy which is antidotal to Yellow Fever—or which by catalytic action cures it?
  - 14. Does quinine cure Yellow Fever?
  - 15. Does it abate the temperature of the paroxsysm?
  - 16. Does it mitigate the neuralgias of the paroxsysm?
- 17. Does it by any influence over vaso-motor nerves relieve or avert congestions, and promote perspiration?
- 18. Is the contact of this drug with the stomach liable to excite a degree of irritation prejudicial to the subsequent career of the case?
- 19. Are its physiological effects sometimes distressing and injurious to patients?
- 20. Do we know of any means, or course of treatment whereby we can expel Yellow Fever poison from the system in time to prevent its toxic action?
- 21. Does the tendency to prespire so usual to Yellow Fever cases, indicate that the sudorific gland apparatus affords a natural avenue of escape of the poison from the system?
- 22. Is excessive diaphoresis dangerous as tending to derange other functions especially that of the kidneys?
- 23. Should purgation be practiced in Yellow Fever for any other purpose than simply to rid the intestines of accumulated forces?
- 24. Is the best treatment of Yellow Fever one which is strictly symptomatic and conservative?

In concluding, the committee ask the members of the Association to suggest the treatment regarded as best to meet the following symptoms in the order in which they are stated.

## SYMPTOMS DURING PAROXYSM.

- 1. Protracted chillness, or imperfect reaction-
- 2. Excessive fever.
- 3. Violent neuralgic pain.
- 4. Vomiting.

SYMPTOMS AFTER PAROXYSM.

- 1. Secondary blood poison, as jaundice, etc.
- 2. Excessive debility.
- 3. Insomnia and jactitation.
- 4. Sick stomach.
- 5. Black vomit.
- 6. Hemorrhage.
- 7. Suppression of urine.

  MEASURES OF CONSERVATIVE TREATMENT,
- 1. Hygiene of room.
- 2. Bed and clothing of patient.
- 3. Drinks.
- 4. Food.
- 5. Duties of nurse and attendants.

All which is respectfolly submitted.

S. M. BEMISS, Chairman.

B STILLÉ.

H. D. SCHMIDT.

Upon the following questions of the programme the sense of the Society was expressed by a viva voce vote.

Question 1. Is Yellow Fever a specific disease, in the strictest sense of the word?

Decided: Yes, 16,-Doubtful, 2,-Reserved opinion, 4.

Question 2. Is it convertible with other specific diseases? Decided: No. 19,—Yes, 3.

The decision of question 3, omitted on motion of Dr. Henry. Question 4. Are the following facts sufficient to prove that the cause of Yellow Fever is an organism,—to wit:

- (a.) Yellow Fever prevails only under climatic conditions which are favorable to the growth and perpetuation of organisms.
- (b.) Nothing in nature is capable of reproducing itself except an organism and the steady increase of yellow fever epidemics indicates successive generation or crops of the poison.

Upon request, Dr. Choppin stated that he regarded yellow fever as a specific disease, which is not convertible with other specific diseases, but which may be associate or intro-current with other diseases. He believes the cause of yellow fever to be a living organism, and, upon this germ theory, the Board of Health are now testing the power of disinfectants to destroy the poison, or modify its effect.

Question 4 decided,—Yes, 17. Reserved opinion, 3,—No, 1. On motion of Dr. Shepard, seconded by Dr. Bemiss, the questions from 5 to 12 inclusive were omitted.

Question 13. Do we possess any remedy which is antidotal to yellow fever, or which by catalytic action cures it?

In the discussion of this question, Dr. Bemiss confessed that he knew of no antidotal remedy—no catalytic agent to cure; alluded to the imputed efficacy of disinfectant remedies, as the sulpho-carbolate of soda.

Dr. Pratt said that he had recently used the sulpho-carbolate of soda in the treatment of yellow fever, with no positive benefit,—that it does not moderate or modify temperature,—may prevent the decomposition of black vomit,—may prevent sepsis.

He had observed the fœtid odor of the breath in cases of gangrene, and abcess of the lungs entirely disappear after the use of the sulpho-carbolate.

Dr. Joseph Jones was requested to give his experience in the use of this drug. He stated that, in 1873, he had administered it with benefit in a large number of cases, one of which, with temperature 107½° F., finally recovered. Usually when the temperature rises above 104° F., recovery is doubtful, especially in persons of bad habits, whatever the treatment. He related the case of a little child, about two years of age, recently treated by himself, with Dr. Pratt in consultation, whose temperature was reduced in an hour and a quarter, from 107½° F., to 99° F., by immersion in an ice cold bath. The child died in convulsions four hours after. The prevailing fever is characterized, he said, by a high grade of temperature and rapid pulse,—is not the fever of one paroxysm, as has been described by some writers, but a fever of marked remissions,

with sudden rise and fall. He spoke of six cases in the originally infected district, and thirty-five cases in all, recently treated upon the expectant plan,—hot foot bath, calomel purgative, castor oil and starvation. He felt loath to speak of an antidotal remedy in yellow fever. He said we know nothing of the poison,—we have no facts to sustain the germ theory,—we can not account for the malignancy of some cases, the mildness of others,—investigations shed no light,—the disease runs its course in spite of treatment,—the chemistry and microscopy of the urine and the blood remain unaltered by any treatment yet known, quinine, sulpho-carbolate of soda, carbolic acid, etc., exerting no influence whatever.

The above germain to the discussion of an antidote. Question 13 was decided. No. 19. Doubtful, 2. Yes, 1.

Question 14. Does quinine cure Yellow Fever?

Dr. Pratt remarked that he had observed the action of quinine in his own and also in the practice of others, administered in large doses and small doses, at long intervals and short intervals, given by the mouth and by enema, given alone and in combination with other medicines, and had yet to observe any benefit accruing from its use.

Dr. Choppin said that, in 1847 and 1853, it was the practice of Drs. Stone, Hunt, Wederstrandt and others, to administer quinine and opium in the early part of the febrile stage,--from them he learned the practice in 1853, and, since that time, whenever called to a patient, within the first twenty-four hours of the fever, called the neuralgic period, after the preliminary foot-bath, purgative and orange leaf tea, prescribes quinine with Battley's Sedative, or some preparation of opium, usual recipe and direction, R quiniæ sulph. gr xxx, Battley's Sedative gtt xxx. aq. aurant. flor. 3i m. S, 2 after the first alvine evacuation, repeat after the second. He does not regard quinine as at all antidotal to the poison, and condems its use after the first twenty-four hours of the fever; but for the last twenty-five years, has observed the good effects of the above combination in relieving the distressing neuralgies, calming and quieting the patients, promoting perspiration, and affording the best chance of coming through safely.

Dr. Cullen recommends the use of quinine and opium, when the surface is dry, to promote perspiration.

Dr. Carson asked if the opium in combination were not prejudicial in view of the tissue changes observed in Yellow Fever.

Dr. Choppin replied that the structural changes did not occur so soon as to contraindicate the use of opium in the early stage.

The discussion recurring to the original proposition. Question 14 was decided No, 18, Doubtful, 4.

Question 15. Does quinine abate the temperature of the paroxysm?

Dr. Bemiss said that he had given quinine more largely this summer than hitherto to counteract a malarial element supposed to co-exist in many cases, and as yet had not observed that fall of temperature expected.

Dr. Pratt spoke of the irregular course of the temperature mark of the fever of this year, and in some cases of remittent temperature, had thought the fever allayed by the action of quinine of the malarial element complicating.

Question 15. Decided, Yes, 3. No, 7, Doubtful, 12.

On motion of Dr. Bemiss, question 16 was tabled.

Question 17. Does quinine by any influence over vaso motor nerves relieve or avert congestions, and promote perspiration?

Decided, Yes, 10, Doubtful, 12.

On motion of Dr. Shepard, seconded by Dr. Pratt, questions 18 to 24 inclusive were omitted.

The discussion now turning upon the treatment of yellow fever, Dr. Stille expressed the belief that the simpler the treatment the better. Sets opium aside, so also calomel, and, since 1847, has abandoned quinine, with the idea that these drugs are apt to cause congestion of the stomach. He usually initiates treatment with the foot bath, followed by dry cups down the spine. He prefers to let the neuralgic pains subside of themselves. During the febrile stage administers the spirits of mindererus and cherry laurel water,—allays nausea and vomiting with a mustard plaster over the epigastrium, or prepared chalk

with mint water internally,—recommends stimulants and nourishment, and lays stress on the importance of treating the convalescent stage.

Dr. Chastant spoke next of the efficacy of quinine in ten or fifteen grain doses every three hours, and especially recommended the chlorate of potash, in ten grain doses, as accessory to the quinine in exerting a sedative effect on the circulating system.

Dr. Davidson briefly described the three forms, into which vellow fever has been divided, as the mild, inflammatory and malignant, all of which however, may pass one into another. His treatment is entirely symptomatic, - perfect quiet, pediluvia, purgative, effervescent draught, neutral mixture, with the tinct, of gelseminum to allay jactitation, especially in children, leaving the elimination of the poison to nature's efforts. He has seen much of the use of quinine in his own and others practice. In 1847, its use was the routine practice. Even the itinerants of those days, who often preceded the physician, made a habit of giving from 20 to 30 grains at once and repeat in two or three hours, It did not seem to injure the patients. He abandoned the use of quinine early in the year 1853, after seeing such pain, delirium, jactitation and distress follow its administration. He believes quinine promotes perspiration, relieves those neuralgic pains about the head, which are not cerebral, interupts local congestions, and equalizes the circulation.

In the inflammatory form, characterized by a raging fever, delirium and bounding pulse, he recommends the foot-bath, ice-cap, ether spray, etc., and, after purgation, surface sponging, to reduce the febrile excitement and lower the temperature. If there be agitation and restlessness in the first paroxysm of this form, he prescribes a mild opiate, or

R Hydrate chloral gr. x-xv.

Battley's Sedative gtt. x-xv. M. S.

by enema. Next morning he usually observes less pain, and the patient perspiring, Within his recollection, in the old times, the practice was, in this form of the tever, to apply cups and leeches, purge freely, and bleed, ad deliquium animi. He next discussed the malignant form, but had not much to say of its treatment, In Shreveport, in 1873, he observed this form in the height of its malignancy, and, there and then became convinced that the first action of the poison is on the nervous system. The first paroxysm was severe, neuralgic pains intense, and albuminuria occured early, even on the first day, or morning of the second. The tongue was broad and white. A great many cases died in from 12 to 36 hours, after the first attack, before any of the hemorrhages had occurred, so rapidly was the poison received and so virulent its action. In the majority of cases, the poison seemed to act particularly on the ganglionic centers, destroying the functions of organic life, paralyzing the heart and kidneys in their action, In conclusion, Dr. Davidson remarked that he believed a distinct organism, a specific germ to be the cause of yellow fever. The effect is always unmistakable. Yellow fever is always the same fever wherever or whenever it comes. The germs are not indigenous, but come from abroad.

Dr. Pratt moved that the discussion of Yellow Fever be continued at the next meeting.

Motion seconded and adopted.

On motion of the same member, society adjourned to meet on the 19th inst. at  $7\frac{1}{2}$  P, M.

A. B. MILES, M. D. Recording Secretary.

# Report of a case of Yellow Fever with exceedingly high temperature just before death.

BY DR. C. S. MERCIER, Visiting Physician Charity Hospital.

History.—Mrs. Anna B., native of Wurtenburg, Germany, age 30 years. Left her native place fifteen months ago, twelve of which were spent in South America, and the last three in New Orleans. Boarded at the Commercial Hotel, corner of Girod and Peters.

Entered the Charity Hospital (ward 35, bed 567), on the morning of August 2nd, 1878, at 9½ o'clock. She was immediately put to bed, and a light blanket placed over her. After being comfortably arranged she stated that she was seized on

the morning of July the 29th, with headache, severe pain in the back, fever and flushed face; she took a dose of senna and salts on that day, which acted but once. She did not confine herself to her bed, but came to the hospital as usual to see her husband and daughter who were at that time suffering with an attack of yellow fever. She also stated that on the morning of August the 1st, she vomited something black.

At the time of her admission she presented the following symptoms. Very nervous and excited, throwing herself from one side of the bed to the other. Skin hot and dry, eyes congested and suffused, severe headache, great thirst, tongue coated white in centre, and red around the edges, gums slightly congested, nausea, but no vomiting, bowels constipated, urine of a straw color, abundant, one sixth volume of which was albumen as shown by heat and nitric acid. Great tenderness over whole abdominal cavity, especially over region of stomach and womb. She was found to be between the second and third months of gestation, although she was unaware of it, as she was then nursing her child two years of age.

Respiration, panting and very rapid, 42 per minute. Pulse, 98. Temperature of axilla, 101.75° F.

Treatment. A warm foot bath containing mustard was ordered. Calomel and bi-carbonate of soda, as grs. x, were prescribed; and the following by enema, tablespoonful every hour until all was taken.

R

Quiniæ Sulph.

Ammonia Carb. aa Dii

Mucilage Acaciæ 3ii m. et sig.

(The patient died before the last prescription was administered.)

On my returning in the evening to see the patient, I derived the following facts from Mr. McCutchon, student of ward.

At twelve-thirty the patient became delirious and speechless. At 2 P. M. her respiration was stertorous, and the saliva which was issuing from the mouth was frothy.

The thermometer was placed in the axilla, and was allowed to remain for five minutes, and it recorded 110.75° F., it was

then replaced into the axilla, and left there for five minutes, when it was removed and recorded 111° F. No pulse could be felt at wrist.

Dr. Miles (Asst. Surgeon of the Hospital) was then sent for, when one of Fahrenheit test thermometers was placed in the axilla at 2,25, and at the expiration of five minutes recorded 111° F.

Respiration still stertorous and intermittent. Patient died at 2.40 P. M.

#### AUTOPSY.

The autopsy was made by Mr. Gabert and myself five hours after death. Temperature of axilla 105.5°, thermometer remained in place eight minutes. After the incision was made from the sterno-clavicular articulation, to the symphsis pubis, finding the heat was so great that I placed the thermometer in the hypogastric region, and at the expiration of five minutes it recorded 109° F.

Brain. Brain substance normal; coverings highly congested.

Lungs. Lungs very much congested and had a fleshy feel.

Heart. Heart empty. Left side normal—Right side dilated.

Upon cutting the aorta through, the blood which issued therefrom was thick and black.

Spleen. Spleen of a dark color and enlarged.

Stomach. Stomach contained seven ounces (measured) of black liquid—mucous membrane of stomach congested, especially at the cardiac orifice and greater curvature. This congestion as far as the naked eye could reveal seemed to be a hæmorrhage from the capillaries.

Intestines. Intestines all congested and filled with gas.

Liver. Liver congested.

Gall bladder. Gall bladder distended with bile.

Kidneys. Kidneys congested, capsule easily removed.

Bladder. Bladder empty.

Womb, Womb contained a small fœtus,

# REVIEWS AND BOOK NOTICES.

On the Therapeutic Forces. An Effort to consider the Action of Medicines in the Light of the Modern Doctrine of the Conservation of Force. By Thomas J. Mays, M. D., etc. 12 mo. pp. 143. Philadelphia: Lindsay and Blakiston, 1878.

The scope of this little work is limited to a few remedies only, belonging chiefly to those classed as restoratives and tonics.

His first division is styled "Chemical Stimulants," and consists of hydro-carbonaceous compounds, such as fats and oils, starch, the sugars and alcohol. To the above phosphorus is added. These substances are all oxydized in the human body, and by this action their potential force becomes actual, manifesting itself as heat and motion. So far the author's reasoning is strictly in conformity with the accepted physiology of nutrition, and he is on safe ground, without a valid claim to originality.

His second division is styled "Mechanical Stimulants," including such remedies as quinia, quassia, barberry, gentian, etc. Taking quinia as a type of the class, he alludes to its power of preventing fermentation and putrefaction and destroying infusoria; of lowering animal temperature and checking the movements of the white blood corpuscles. Hence he concludes that its essential operation is to retard chemical and nutritive changes; that it "must represent or be equivalent to a force which moves in a direction contrary to that in which the combined forces of animal life move."

His explanation of the tonic action of the drug is ingenious, if not satisfactory.

"Now then we are aware that a comparatively strong antagonistic force has the power of curbing the organic activity of the animal body; but we also saw that a force of the same nature, only diminished in quantity, does not only not tend to impede motion, but, on the other hand, it calls forth reactive energy in the opposing force, and thereby accelerates and enhances its motion; and if this is so, then, small or comparatively weak doses of quinia must tend to promote functional activity of the bodily organs."

Iodine and the iodides are supposed to act not only mechan-

ically but chemically, and to elevate temperature by promoting tissue changes, which result in emaciation.

Opium and the other narcotics are supposed to exercise a mechanical stimulation, in appropriate and moderate doses, upon the nervous system, by a method of selection which he does not aid us in explaining. Opium operates in this way to relieve pain, but narcosis is regarded as insensibility produced by cerebral hyperæmia.

Chapter V continues the subject of mechanical stimulants, with special reference to those commonly known as counterirritants, and including hot baths, poultices and frictions. These are indicated in depressed conditions of particular surfaces, and are supposed to act by virtue of some force of their own, which is communicated to the surface on which they may be applied.

The following extract from the concluding chapter illustrates the philosophy of our author:

"The animal body, then, is composed of organic molecules which in health are in a constant state of activity. This molecular activity is maintained in the natural way by chemical stimulants, substances which undergo oxidation in the body, and thus give free their force. In diseases, however, the ordinary chemical stimulants are not always capable of furnishing the requisite degree of molecular activity to the body; hence they are reinforced by others, like alcohol, the hypophosphites, etc., which possess a superior capacity for undergoing combustion. On the other hand the molecular activity of the body may also be enhanced by the mechanical stimulants-substances like quinia, ammonia, etc., which transmit their motion directly to the body without undergoing previous oxidation, and these are powerful adjuvants to the chemical stimulants in treating disease. And, again, we have especial mechanical stimulants of the nervous system, like opium in small doses, as well as special mechanical depressants of this tract of bodily tissue, like opium and alcohol in large doses. We thus find, then, that these three general classes comprise the action of many of our most reliable and important remedies, and it might easily be shown that the theraputic action of many other substances would become intelligible if considered in a similar light."

The author seems to be an amateur of physical science, possessed with the idea of discovering and elaborating a chain

of analogies between the action of natural forces on inorganic matter and that of various substances applied to organic bodies The subject is about as recondite as the origin of life in the midst of inorganic matter, which a few scientists fancy they are on the point of discovering, but most regard as beyond our reach. S. S. H.

# BOOKS AND PAMPHLETS RECEIVED.

- Remarks on Naso-Pharyngeal Catarrh. By M. F. Coomes, M. D., Demonstrater of Anatomy and Clinical Lecturer on Diseases of Ear and Throat in Hospital College of Medicine, Louisville, Ky., Reprint from Louisville Bi-Weekly-
- The present Status of the Pathology of Consumption and Tuber. culosis, By J. Hilgard Tyndale, M. D., New York City.
- Amputations and Excisions of the Cervix Uteri; their Indications and Methods. By J. Byrne, M. D., M. R. C. S. E. Surgeon in chief, St. Mary's Hospital, Brooklyn, N. Y. Reprint from volume II, Gynecological transactions.
- The Functims of the Anal Sphincters, so-called. By James R. Chadwick, M. D., Boston, Mass. Reprint from volume II, Gynecological transactions.
- The Hystero-Neurosis, with Especial reference to the Menstrual Hystero Neurosis of the Stomach, By George J. Englemann, M. D., St. Louis, Mo. Reprint from volume II, Gynecological transactions.
- The Soft Palate, Its value in Diagnosis as compared with the Tongue in Derangements of the Liver, Malarial Diseases and Exanthematous Fevers. By Wm. Abram Love, M. D., Professor of Physiology in the Atlanta Medical College, Ga., Reprint from the transactions of the Medical Association of Ga.

- A Hystero-Psychosis. Epilepsy Dependent upon Erosions of the Cerrix Uteri. By Geo. J. Engelmann, M. D., Reprint from St. Louis Clinical Record.
- On the Nature, Origin, History and Public Prophylaxis of Venereal Diseases and the Doctrines of Syphilis. By Thomas Kennard, M. D., St. Louis, Mo. Reprint from St. Louis Medical and Surgical Journal.
- Neuralgia and its Modern Therapeusis. By James B. Baird, M. D., Atlanta, Ga. Reprint from the transactions of the Medical Association of Georgia.
- The Application of Pressure in Diseases of the Uterus. By V. H. Talliaferro, M. D., Atlanta, Ga., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Ga.
- Economy and Necessity of a State Board of Health. Address delivered before the Indiana State Medical Society, May 21, 1878, by the president, L. D. Waterman, M. D.
- Exposition of Facts. By A. Y. P. Garnett, M. D.
- The Obstetric Forceps—When and How to Use it. By Geo. J. Engelmann, M. D., St. Louis, Mo.
- The Annual Announcement of the Department of Medicine and Surgery of the University of Michigan for '78-'79.
- United States Centennial Commission International Exhibition, 1876. Reports and Awards, Group III. By Francis A. Walker, Chief of the Bureau of Awards.
- Dislocation of the Shoulder Joint caused by Muscular Spasm of six months, standing, successfully reduced. Dislocation of the Femur on the Dorsum Ilii, in a boy six years of age, reduced by manipulation. By A. B. Cook, A. M., M. D., Professor of the Science and Art of Surgery, Kentucky School of Medicine. Reprint from Richmond and Louisville Medical Journal.

No. 4. OFFICE SURGEON GENERAL, U. S. M. H. S.,

Washington, August 3, 1878.

Abstract of sanitary reports received during the week ended August 3d, 1878, under the National Quarantine Act:

New Orleans:—Since report last week 158 cases yellow ferer and 36 deaths have occurred making in all 195 cases and 53 deaths to yesterday evening. There are now four principal points of infection and these spreading, but Board of Health hope to control it.

One passenger landed Monday at Vicksburg has since died of yellow fever; on Tuesday one case taken from hotel to hospital at Cincinnati with same disease—both from New Orleans en route for North.

Key West:—No new cases yellow fever, four days to yester-day noon. No cases in port; 2 at Marine Hospital, convalescent.

Quarantine Stations: - Many vessels arriving at quarantine stations, on Atlantic from Cuba bring cases of yellow fever a common yearly experience.

Havana:—129 deaths from yellow fever and 13 from small pox, week ended July 20.

Matanzas: - No abatement of yellow fever or ratio of deaths, week ended July 26.

Calcutta:—14 deaths from cholera, week ended June 1st.

Bombay: -33 deaths from cholera during 2 weeks ended June 11.

Constantinople: -Bulk of Russian army encamped on unhealthy lowlands has removed to healthier camping grounds, and most of the refugees in the city have gone to Asia Minor and Syria-about 80,000 remaining-since which the typhus, small pox, measles, scarlet and enteric fevers, which prevailed so extensively near close of war and since cessation of hostilities, have greatly diminished. (July 12th.)

The epizoötic prevails extensively amongst the cattle of Asiatic and European Turkey.

Reports received from other places indicate good health.

JNO. M. WOODWORTH,

Surgeon General, U. S. Marine Hospital Service.

# METEOROLOGICAL REPORT FOR JULY, 1878.

-	TEMPERATURE.			1 3	ity s.	
Day of Month.	Maximum.	Minimum.	Range.	Mean Barometer Daily.	Relative Humidity Daily.	Rain fall-Inches.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	90 88 83 85 87 91 92 91 91 91 91 92 93 92 91 90 92 93 92 91 92	76 75 76 75 76 76 77 78 78 77 78 77 77 79 78 77 77 79 78 77 77 77 79 78 77 77 77 78 78 75 80 81 81 81 81 81 81 81 81 81 81 81 81 81	14 13 7 10 12 11 15 13 13 13 14 11 13 15 16 15 11 10 12 15 14 15 11 10 12 11 11 15 11 11 15 11 11 11 11 11 11 11	29.946 29.849 29.825 29.886 29.962 29.991 30.000 30.019 30.014 30.005 30.071 30.064 30.092 30.016 29.917 29.884 29.905 29.930 29.983 30.006 29.956 29.956 29.958	83.5 81.2 79.2 81.0 80.0 81.2 82.2 85.5 84.5 84.5 84.0 82.2 81.5 83.0 86.7 86.0 82.5 84.0 82.2 86.7 86.0 82.5 84.0 82.5 84.0 82.7 86.0 82.0 86.7 86.0 86.7 86.0 86.0 86.0 86.0 86.0 86.0 86.0 86.0	.00 .24 .05 .00 .18 .08 .00 .00 .00 .14 .10 .34 .00 .00 .23 .39 .00 .00 .00 .00 .00 .00 .00 .00 .00 .0
28 29 30 31	91 93 88 90	79 78 80 80	12 15 8 10	29.932 29.946 29.991 30.009	85.2 85.2 84.0 85.7	.03 .00 .01 .05
Mean	90.	77.5	12.4	29.958	83.8	Total: 5.66

# MORTALITY IN NEW ORLEANS FROM JULY 28 TO AUGUST 25, 1878, INCLUSIVE.

Week Ending.	Yellow Fever.		Consump-	Small- pox.	Pneu- monia.	Total Mortality.
August 4	49	14	21	0	4	176
" 11	74	30	18	0	1	206
" 18	185	22	15	0	3	315
" · 25	308	55	9	0	5	493
Totals	616	121	63	0	13	1190

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

# OCTOBER, 1878.

# ORIGINAL COMMUNICATIONS.

Sunstroke—Coup-de-Soleil—Exhaustion from Heat—Its nature, causes, prophylaxis, symptoms, pathology, morbid anatomy, and treatment, together with an account of the late epidemic in St. Louis, Missouri.

By THOS. KENNARD, M. D., of St. Louis.

Since the cholera epidemic that prevailed here to an alarming extent in 1866 and 1867, we have justly and truthfully claimed that St. Louis was the healthiest large city in the world, and attributed the fact mainly to its superior drainage, which from its location is so easily and perfectly accomplished. The population of the City of St. Louis in 1860 was 160,773. In 1870 it had increased, notwithstanding the ruin inflicted upon it by the war, to 310,864, and now it has at the lowest estimate, a resident population of 505,000. Our city embraces within its corporate limits 40,000 acres, 62.5 square miles; 2,107,03 acres in parks; 415 miles of paved streets; 18 miles river front; 178,75 miles of sewers, and 180 miles of water pipe.

St. Louis is 1,390 miles above the Balize, 1,286 miles above New Orleans, 174 above the mouth of the Ohio, and 19 miles below the mouth of the Missouri. Its latitude is 38°, 37′, 28″ N; west longitude 90°, 15′, 39″. The Mississippi, opposite St. Louis, is about 382 feet at low water, above the Gulf of

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Mexico. From being one of the most unhealthy cities in this country twenty-five years ago, it has become the healthiest one, as has been proven by our mortality records. The death rate for the past five years has been surprisingly small, and the number of cases of sickness less than when the population was one-third what it now is.

The late epidemic of sunstroke, though of short duration, so far exceeded anything of kind that had ever occurred in modern times, as to the numbers affected, and was so greatly exaggerated by the Chicago and Eastern Press, that we are likely to lose our prestige for health, unless a truthful statement be made by some reliable resident physician. The heated term of 1878 began suddenly, on July the 10th, and continued without much abatement for ten days, during which period the total mortality from all diseases was 499, of which number, 154 or about 31 per cent. was caused by coup-de-soleil. Of this number 115 were males and 39 females; 147 white and 7 negroes. There were four deaths under 15 years of age; 18 from 15 to 30 years; 65 from 30 to 45 years; 38 from 45 to 60 years; 29 above 60 years.

The deaths occurred as follows; July 10th, 2; 11th, 3; 12th, none; 13th, 13; 14th, 12; 15th, 41; 16th, 22; 17th, 23; 18th, 17: 19th, 15; 20th, 6. The nationalities were Germany 62; United States 36; Ireland 30; England 6; other countries 10. This gives Germany 40 per cent. of the whole mortality, and about the correct proportion for the number of Germans belonging to our working population.

Many other deaths during this period were also due to the extreme heat, though not from sunstroke. There were 50 from cholera infantum; 17 from apoplexy? 40 from convulsions and 34 from other diseases of the brain and nervous system.

Two hundred and ninety cases were treated for heatexhaustion at the City Dispensary, among whom were eight colored persons. Five died at the Dispensary and 105 were transferred to the City Hospital, at which institution 112 cases in all, were treated and only nine died, which shows only thirteen deaths from all the cases that were treated by the Health Department. Nothing more satisfactory than this could be anticipated.

The temperature during this period, taken from Mr. A. S. Aloe's standard thermometer at his instrument store on the corner of Fourth and Olive streets, which worked accurately the degree of heat that we were suffering from being taken on the ground floor, and not one hundred feet from the pavement as is done by the Signal Office, was as follows.

8	A. M.	12 M.	3 P. M.	6 P. M.
July 10th,	840	920	960	910
6694 (41th,	830	920	960	930
" 12th,	850	920	980	920
11113th,	880 .	930	980	950
ss coulsth,	860	940	990	970
16th,	860	930	1000	970
66:11 17th,	870	950	990	111 960
16 18th,	860	949	990 11	970
6 19th,	850	930	970	910
" 20th,	840	930	970	919

The 21st was cooler, and on the 22nd there was a fall in the temperature of  $10^{\circ}$ ; the thermometer indicating for the same hours  $74^{\circ}$ ,  $82^{\circ}$ ,  $86^{\circ}$ ,  $83^{\circ}$ .

To show how directly the death rate from sunstroke was regulated by continued extreme heat, I annex the following additional table where no cases, or few occurred.

	8 A. M.	12 M.	3 P. M.	6 P. M.
July 29th,	740	820	860	839
6 97 30th,	720	820	870	830
Wait- 31st,	750	850	900	860
Aug. 1st,	740	880	880	860
49 870-2nd,	780	860	910	800
66, er 3d,	730	830	870	850
" 4th,	740	810	840	820
" 5th,	780	860	900	880
Wind 6th,	780	860	900	. 880
66: . 7th,	800	880	940	920

Since that period there has been a gradual increase in the temperature and a number of cases of sunstroke have been reported, as also an increased number from the indirect effect of solar heat. During the week ending August 10th we had two deaths from sunstroke, 13 from convulsions and nine from other diseases of the brain and nervous system. During the week ending on the 18th, there were several cases of heat-exhaustion, but no deaths; and the mortality was unusually small—119—or a death rate of only 12.37 to 1000 inhabitants

## SUNSTROKE.

Nervous exhaustion from exposure to an excessive degree of heat, is the true meaning of sunstroke.

To maintain health, it is absolutely necessary to keep the temperature of the blood as nearly as possible at its normal degree. It cannot rise but very little above one hundred without producing fever and exhaustion, nor can it fall much below that point without causing chillness and disease. In the severest fevers the over-heated blood will paralyze the nervous system and cause death generally before it reaches 108°, because such a temperature is incompatible with life. Civilization and education have enabled us, by teaching us how to adapt ourselves to the circumstances that surround us, to withstand the greatest extremes of heat and cold with comparative impunity, and to dwell in the polar or torrid regions as necessity or inclination may dictate. By means of comfortable houses, suitable clothing, nutritious food and fires, we may live where the thermometer marks 40° below zero without much inconvenience, or perceptible injury. So also, by suitable precautions, we can withstand intense heat, and live where the thermometer ranges as high as 115°, 120° or even 130° in shade. This toleration of intense heat depends upon the rapid and constant cooling of the blood, by the process of evaporation constantly going on from the surface of the body by perspiration and also by hurried respiration, and as long as these two vital functions remain unimpaired, health will not be interfered with, and the human organism will be enabled to adapt itself to extreme degrees of temperature; but if from functional or organic derangement, or external surroundings, the balance between the heating and the cooling of the blood be disturbed, the whole system becomes deranged, and insolation, exhaustion from heat or sunstroke may occur.

The African has no fear of sunstroke, though exposed to the burning rays of the sun in his native clime, for he works little and dresses less. The Chinaman exposes his shaven scalp without hesitation, provided he can keep his fan moving and stirring a breeze about him, and thus keep his head cool and his skin perspiring freely.

The gentleman sportsman of the East Indies, who adapts his mode of dress and living to the climate of that country hesitates not to pursue the chase in midday, but rarely has been known to be sunstruck. A voluntary or unavoidable violation of these rules will soon manifest its effects upon the human system. Many striking instances have been detailed by the English Army Surgeons in the East Indies proving that heat and consequent nervous exhaustion was the essential cause of coup-de-soleil. My friend, Dr. James C. Whitehill of this city and formerly surgeon in the Union Army, has been kind enough to furnish me with the notes of the following remarkable instance of heat exhaustion on a large scale, that came under his observation, which illustrates admirably the influence that over-exertion in the hot sun has in producing heat-exhaustion, and the happy influence that timely and judicious treatment exerts in warding off its injurious effects.

"During a forced march of thirty-five miles from Satartia to Haine's Bluff, on the Yazoo River, near Vicksburg, Mississippi, made from noon of June 5th to noon of June 6th, 1863, by General Kimball's Provisional Division, of which I was the Medical Director, there occurred over three hundred cases of sunstroke, of varying degrees of intensity, without a single immediately fatal result. The march was made along the low grounds on the south side of the river, much of the way through immeuse fields of corn, and the heat was as intense as I have ever experienced.

The treatment, the best that could be applied under the

circumstances, and which yielded the above excellent results. consisted in removing the stricken one without delay to the nearest shade, or in extemporizing one when necessary, with a blanket or some article of clothing. His accourrements, and such clothing as would constrict his chest or throat or in any manner impede respiration, were loosened or removed. Cold water was poured on the head and chest and the former was covered lightly with fresh grass moistened with water, and as soon as the patient could swallow, a mouthful of whiskey or whiskey and water, the only available stimulant was given him. He was allowed to remain in this condition until the ambulance came, in which he was placed and the same general treatment was continued with the occasional administration of aromatic spirits of ammonia. When sufficiently recovered, he was transferred to one of the train wagons and made as comfortable as possible until able to resume the march. On the evening of the 5th, after a long ride to the rear of the column and back, I was myself overcome with the heat, but was relieved by a copious perspiration induced by a large draught of strong hot green tea and Rhenish wine administered by the surgeon of the 43d Illinois, Dr. Starkloff, now of South St. Louis, and about noon of next day I was taken from my horse in a state of partial syncope, and revived by the affusion of cold water over my head, chest and arms and by stimulation with ammonia,"

There can be but little doubt, after the numerous facts proven by experimental physiology, after the repeated observation of the rise and fall in the temperature produced by injuries to the cervical portion of the spinal column, and after the unvarying increase in the temperature of the head and back of the neck in coup-de-soleil, that there are heat regulating nervous centres located in the upper portion of the spinal column, which control and equalize the temperature of the blood within certain limits, but when the intense heat supervenes suddenly and continues uninterruptedly for a longer or shorter time, these heat-regulating centres lose their control and the blood becomes unfit to sustain life.

Dr. Samuel Wilks of London, who has recently published a

very valuable work on nervous diseases, states that opinions have varied considerably as to the nature and causes of sunstroke, but of late, much weight has been attached to the observations of those, who have taken the trouble to more closely watch the phenomena, and more especially to note the increased temperature of the body. The rise of temperature has been so repeatedly observed, and the symptoms occurring from excessive heat, are now so well known, that there seems little doubt that all the phenomena of sunstroke are due to the effect of its sudden increase.

It must be remembered that one of the most remarkable facts in the animal economy, is the constancy of its temperature even to the fraction of a degree.

Whether we eat much or little, take exercise or remain at rest, live in a tropical or a temperate climate, the result is the same, our temperature is uniform.

It is clear, therefore, that as we are producing more heat at one time than at another, and losing unequal amounts at different times, there must be a regulating power in the body, which preserves the normal standard of warmth. The balance is supposed to be regulated by the spinal cord. Injuries of this part destroy the equilibrium and cause irregularities of temperature.

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Every intelligent physician knows that man and all warm blooded vetebrate animals surrounded by a dry and hot atmosphere, can withstand the intense heat for a certain period, (provided evaporation by any means, perspiration and panting) be kept up, without any very appreciable change in their condition, except hurried respiration, restlessness and symptoms of nervous exhaustion, but after the lapse of sometime, varying with the size, age and anatomical construction of the animal, death suddenly ensues.

He also is aware that the stiller the atmosphere, the more intolerable the heat becomes, and the more suddenly and rapidly death occurs. The abnormal increase in the tempera-

ture of the blood, changes that fluid so completely and rapidly in its vital properties that it can no longer support life.

It matters not what the precise nature of this change may be, whether, as some erroneously think, from deficient oxygenation causing rapid venosity of the blood, when the subject is exposed to the direct rays of the sun, or to the close, stifling, hot, moist air of ill-ventilated barracks, dormitories, laundries, foundries and workshops; the prominent fact evident to the careful student, is that by the sudden overheating of the blood, aided by a previously deranged condition of the skin, the lungs, the liver, the bowels or the kidneys, extreme exhaustion and sudden death may be produced. The overheated blood acting upon the nervous system destroys the power of muscular contractility and thus acting upon the heart arrests its action, paralyzes it and produces almost instant death. Generally the blood may be cooled before serious damage is done. This fact was thoroughly demonstrated by experiments made upon animals more than twenty years ago by Claude Bernard. Kuhne also confirmed the same fact, by direct experiments. He concluded that the loss of muscular contractility of the heart was due to a sudden coagulation of the albuminous principle in the muscles, and many writers upon sunstroke, since these ideas were advanced. have adopted them as a correct and satisfactory explanation of the cause of sudden death in that disease.

What particular change in the muscular tissue may be produced by the overheating of the blood, we are not prepared to say, but that death in the cardiac variety of heat-exhaustion is due to a loss of muscular contractility, and consequent paralysis of the heart, cannot be reasonably denied, when both the antemortem symptoms and post-mortem appearances so strongly sustain that opinion.

This overheating of the blood must produce a temporary cerebral hyperæmia of the brain of an active form, when more than a normal amount of arterial blood circulates through the brain, which causes a sudden and most marked increase in the heat of the whole surface, but more especially of the head and neck. It also produces through deranged action of the heart,

a decided congestion of the lungs. The pathologico-anatomical lesions prove that death has been caused by a sudden shock to the nervous system, and although we may never be able to demonstrate the precise minute pathological change: that precede this loss of the power of muscular contractility, we know from post-mortem examinations that the disturbing cause is not prevailing in the brain. Autopsies seldom disclose any marked hyperæmia of the brain. The hyperæmia which at first exists in almost every case will subside if proper remedies be applied without leaving any injurious effects, but if the person attacked be in feeble health, enervated by old age, broken down in constitution or burned out with alcoholic stimulants, and unable to fan life's flickering flame without the aid of stimulants; one whose nervous system requires constant repetition of drink to keep the machinery of life in motion; one who has, perhaps for years subsisted more upon liquor thau food, we are apt to have, first active cerebral congestion followed by maniacal symptoms and violent convulsions, profound stupor, coma and death.

Either condition may supervene suddenly and kill the patient like a stroke of lightning, before danger is realized or assistance can be rendered. These are cases of sunstroke in the true sense of that term; cases where the heart and the lungs cease to perform their functions and the light of life is suddenly extinguished by rapid asphyxia.

Those who die from passive congestion, live longer, and gradually pass from the convulsive state to that of stupor, coma and death. This condition arises from an increased or undue amount of venous blood in the brain.

Cases that recover, suffer from temporary active cerebral hyperæmia, confusion of ideas, strange hallucinations of vision, rapidly changing, and generally, marked maniacal symptoms. Premonitory symptoms, generally warn the healthy individual in time to be saved.

"In various morbid conditions, such as rheumatism, a hyperpyrexia may suddenly occur, which can only be accounted for by some sudden change in the nerve-centres. This high temperature is incompatible with life, as the blood and muscles undergo a change, and the capillaries become filled with the debris of the disintegrated tissues. The true nature of sunstroke is confirmed by the efficacy of the remedy for it. Just as cold affusions save the life of the patient who has a sudden pyrexia from disease, so in coup-de-soleil the same means have been found equally efficacious." Quinine has been reported to be a most effectual remedy in insolation, when timely used, by the mouth, in large doses if practicable, and if not, by hypodermic injection, which must be entirely due to its apyretic and sedative properties in large doses.

Many children die from phrenitis æstiva, which is produced by excessive solar heat, and although they are not destroyed suddenly, still the disease originates from the same cause and thousands of the little innocents are carried off by congestion and inflammation of the brain, and by cholera infantum and other summer complaints, who would reach adult life, but for the nervous exhaustion produced by the excessive and long continued heat, which their extremely sensitive systems cannot endure. "With these cases, as with sun-stroke, if the exciting causes can be removed, or its damaging and deadly effect can be conuteracted, the little one will rally and live.

Most children who die from cholera infantum, sink from nervous exhaustion, produced by excessive and long continued heat, although the fatal result may not come until after the atmosphere has been cooled. Thirty years ago, exposure to the direct rays of the sun was deemed indispensable to the production of sun-stroke, but during the epidemic in New York in 1854, where during the month of August, 235 deaths occurred from heat exhaustion this was proven not to be true, for in one morning, eleven laundry girls were suddenly stricken down, who had not been exposed to the sun at all.

The symptoms and post-mortem appearances in these cases differed in no material particular from those who became exhausted in the open air. This same fact had been observed in India long prior to this time, and also in St. Louis. In 1855, Dr. Reyburn in his very able report, made to the American Medical Association on the diseases of Missouri and Iowa,

stated that the cases of the disease that occured last summer were not all traceable to direct insolation. The furnace tenders in engine rooms, and bakers, who were unexposed to the sun were sometimes attacked.

After the commencement of an epidemic, many deaths occur on cloudy days in the shade, and where the temperature does not range very high. Persons debilitated by age, and wornout from previous sickness are often overcome by heat, when they have not been exposed to the suns rays at all, which proves that death is due to nervous exhaustion from the heat and not to insolation.

The belief that a high humidity of the atmosphere is an essential condition for the production of sunstroke, has not been confirmed by experience and extended observation, and although many cases that have occured indoors where the atmosphere was very moist, but the temperature not excessive, naturally inclined us to that opinion, it has been fully demonstrated that excessive and continued heat without regard to moisture is the one essential cause.

No scientific man will however deny that the human system can resist a high degree of dry heat, much more readily than it can the same degree of moist heat. No one who has felt the exhilerating effect of the Turkish and the suffocating influence of the Russian or vapor bath has failed to notice this, but the difference may be readily accounted for by the fact, that the surface of the body kept constantly wet by the vapor of steam, prevents ready perspiration and rapid evaporation by the skin, and thus interferes with the natural cooling of the blood. Experience often fails to accord with or to sustain theories formed from previous observations.

During the last four days of June, and in the first five of July, 1854, fifty-three deaths occurred in St. Louis from sunstroke, when the mean temperature of these nine days was only 86°. During the same year and the same month, another period of nine days occurred when the average temperature was 88°, and yet only seventeen deaths were reported from the effects of heat, and stranger still on the 5th of July, with the thermometer giving a mean temperature of 79°, five deaths

were attributed to this cause, which proves that it is the continued unabated heat, rather than the high degree in many cases that causes sunstroke.

Dr. George Engleman, who has made accurate meteorological observations in our city for the past forty-seven years, states in his report for 1855, that the two great features of the climatic condition of 1854—the heat and dryness were almost reversed in 1855.

The mean annual temperature had only been lower in 1835, 1838 and 1843. In June it was cooler than he had ever observed it in 23 years. July and August had an average temperature. September showed an unusually warm and steady one. From what we have written, then it appears that neither an intensely dry heat, nor any marked increase in the humidity and closeness of the atmosphere is requisite for the production of heat-exhaustion. Only an uninterrupted continuance of high temperature is necessary, and the reason why we suffer so grievously in St. Louis during a heated term, is that we have at such times, no cessation to the heat, no night breezes to cool the atmosphere and induce refreshing sleep. The still and torrid heat banishes sleep, and we tumble and toss about all night, and are more wearied and worn out in the morning than when we retired.

Our summer night breeze is generally from the South and our first-class residences front North and South, and hence we seldom hear of sunstroke among the better class of our population because they can get refreshing sleep.

Now from what we have written, we think that we have proven, that heat-exhaustion, in the majority, if not in all cases, is due to an increase in the temperature of the blood to a degree incompatible with life. Sometimes the blood becomes much hotter than in any other disease. The thermometer has indicated 106°, 108°,110°, 112° and even 117°, and still the patients have survived.

During our late epidemic the heat of the blood ranged from 108° to 110°, as far as could be ascertained from diligent inquiry, which is much higher than the temperature in fevers compatible with life. Rapid and excessive overheating of the

blood is then sufficient to account for all the phenomena of heat asphyxia.

What produces this sudden overheating of the blood?

As long as the functions of the skin continues to be properly performed and the process of cooling by evaporation continues active, the increased heat can be endured without serious injury or even much inconvenience, but when this mode of depuration is interfered with, a rapid rise in the temperature, and a sudden change in the composition of the blood occurs which is not to be wondered at when we consider the wonderful depurating functions of the skin.

#### PERSPIRATION.

Each perspiratory gland of the skin, for example, consist of a minute coiled tube, which when unravelled is one fifteenth of an inch in length. On the posterior portions of the body and limbs, there are about five hundred of these glands to the square inch; on the anterior portion, one thousand to the square inch, and on the palm of the hand and sole of the foot, twenty-seven hundred in the same space. The whole number of perspiratory glands in the average human body, is at least two million three hundred thousand, and the entire length of glandular tubing is accordingly not less than one hundred and fifty three thousand inches, or about two and a half miles. It is easy to understand therefore, that while each perspiratory gland secretes but a small quantity of fluid at a time, the entire amount produced by all of them may be very large. (J. C. Dalton, M. D).

The same eminent author demonstrated by vivi-section of a dog weighing 14½ lbs, that twelve hundred grains of blood per minute, seventy-two thousand grains per hour, and one million seven hundred and twenty-eight thousand grains, or two hundred and forty seven pounds of blood which is about seventeen times the weight of the whole body pass through the heart every twenty-four hours. Applying this result to that of an adult man, weighing one hundred and forty pounds, we find that the quantity of blood passing daily through the heart, is at least two thousand three hundred and eighty pounds. Now it is absolutely essential for the maintenance of life that the

products of oxidation be removed by the skin, the lungs or the kidneys; by perspiration, exhalation or the secretory powers of the kidneys. Urea for instance exists in normal urine to a very considerable amount, and is constantly being thrown off by the kidneys to obviate its poisonous effects. The entire quantity actually eliminated in twenty four hours can therefore only be accounted for by the rapidity with which successive portions of the blood pass through the kidneys, thus draining away the excrementitious matter as fast as it originates in other portions of the circulation. If this wonderful depurative drain be stopped, every function of the human organism becomes deranged, and unless soon relieved, death must inevitably ensue. So too with the lungs, which become congested, unless the stasis be relieved, improper oxygenation of the blood and apnœa is inevitable.

The checking of perspiration is an essential cause of this increased temperature of the blood, and it precedes almost all the unpleasant symptoms that are characteristic of the disease. It makes itself manifest by the dryness of the skin, the increased temperature of the surface and the difficulty in respiration.

#### SYMPTOMS.

As before mentioned, generally, premonitory symptoms, warn a person of ordinary intelligence of the approach of sunstroke, such as suppression of perspiration, diminished secretion of urine, frequent desire to micturate, great weariness, prostration, restlessness, insomnia anorexia and want of physical and mental ability, followed by marked increase of heat of the surface, more especially about the head and back of the neck, accompanied by various hallucinations of vision, of the strangest and most absurd character. Great thirst and extreme restlessness and jactitation are the most characteristic symptoms in the first stage of a well marked case. The patient acts as though insane. The temperature of the head, neck and chest is higher than in any other disease; the pulse is feeble and quick and the pupils are generally contracted. The pulse is sometimes frequent, full and bounding, but never slow and full unless cerebral hemorrhage has ensued. Apoplectic

seizures do sometimes occur, but they are very rare, and in such cases the attack is sudden, loss of consciousness is incomplete; the pupils are dilated and insensible to light, the breathing is often stertorous and the sphiucters relaxed. The action of the heart is very feeble and the pulse slow, but the loss of intelligence is rarely complete, and is generally partially regained at short intervals, and the coma is seldom so profound as when produced by true apoplexy.

In sunstroke, the nervous system first manifests deranged action. Disordered innervation is the prominent symptom which is due to a previous disordered condition of the blood by being overheated. There is always great thirst. If these conditions be not rapidly relieved we will have vertigo, an increase of the hallucinations, wildness of speech, incoherency of thought, a species of hysterical mania, and sometimes convulsions, terminating in death. In those suddenly fatal cases of the cardiac variety, where no warning is given, but the person is killed as if by a stroke of lightning; when he falls, gasps, and expires from syncope before assistance can be rendered him, we have an accurate illustration of heart paralysis, or loss of muscular contractility of that organ. In the mixed or cerebro-spinal cases, we find great thirst, restlessness, intractibility of temper, great heat and extreme dryness of the skin, accompanied by giddiness, congestion of the eyes. contraction of the pupils, and resistance to treatment, arising from the temporary insanity. There is also suppression of the urine, accompanied by a constant desire to micturate. In the vast majority of cases encountered in our late epidemic, we were fortunate enough to give relief before the worst symptoms came on.

Professor Niemeyer says in the latest edition of his Practice of Medicine, that the symptoms of sunstroke or insolation do not, as were formerly supposed, depend on hyperæmia of the brain, induced by the action of the sun's rays on the head. The symptoms of this disease consist in a paralysis of all the functions of the brain, occurring either suddenly or gradually. In the latter case, the paralysis is preceded by excitement, delirium and other symptoms of cerebral irritation. It has

been determined that, in our zone, at least, the action of the sun's rays is not alone sufficient to induce these severe attacks, but that they only occur where individuals are subject to great fatigue on a very hot day, particularly if at the same time they sweat very little.

## POST-MORTEM APPEARANCES.

In most cases, death seems to have been caused by syncope or asphyxia. There is great engorgement of the lungs, sufficient in most cases to have caused complete obstruction to the pulmonary circulation, and in portions of them presenting evidences of true interstitial apoplexy. The congestion of the brain is generally slight, not more than would naturally occur from failure in respiration resulting from enfeebled action of the heart. It seems to be a secondary effect, resulting from the imperfectly oxygenated blood that had been circulating through its vessels. The blood is uncoagulated and the right side of the heart full.

Dr. George Johnson, one of the most distinguished physicians of London, suggests that the intense heat of the blood produces dilatation of the capillaries of the lungs, engorgement of these organs and consequent apnea, upon which the other symptoms supervene. Distension of the right heart is almost universal in the cardiac variety.

During the late very remarkable epidemic in St. Louis, unfortunately very few thermometrical observations or autopsies were made, although the opportunities for such investigations were much better and greater than are likely to occur again in fifty years. In 1858 and 1859, I made eight or ten postmortems for the coroner, Dr. Boisliniére, and in every case I found the lungs greatly congested and the bronchial tubes filled with a bloody froth, which flowed out of the mouth when the thoracic walls were slightly compressed, congestion of the brain was very slight in any case, not more than is usually produced by the act of dissolution. Instead of hyperæmia of the brain there was generally anæmia. These examinations were made as soon as practicable after death, because decomposition set in very rapidly and the bodies emitted an intolerable stench.

There was in every case marked lividity of the face, neck and upper portions of the body, whilst the body and lower extremities were covered with petechial spots of a purplish color. The stomach and abdomen were always distended with fœtid gas. The tympanitis was very marked. The heart in most cases was congested, and the right side was filled with dark fluid blood and the left side was generally empty. In some of the cases of the cardiac variety, where the patient is really killed by a sudden stroke, and where almost instantaneous paralysis of the heart occurs, it is stated by reliable authorities, that no abnormal appearances could be discovered by post-mortem examination.

This fact goes far to prove that death was not caused by asphyxia, by an insufficient supply of oxygen to the blood; but by the sudden rise in the temperature of that fluid, which acted directly upon the spinal cord, producing a sudden shock to the whole system, and at the same time causing a true paralysis of the heart. No one has ever proven that there was less oxygen in the atmosphere during the prevalence of sunstroke than at any other time and such a condition could not well be produced in the open air. If it ever did, we would all experience the suffocating feeling of approaching asphyxia to a greater or less degree, and the more elevated the position we occupied, the more likely we would be to die from heat exhaustion.

Great congestion and cedema of the lungs, and a peculiar fluidity of the blood are the two prominent and characteristic conditions disclosed by necropsies. All other deranged and disorganized developments such as fatty degeneration of the liver, congestion of the brain and cerebral effusions are mere coincidences or consequences.

Necroscopical investigations then, sustain the nervous theory of the disease, and the lesions found are such as we would anticipate from the symptoms. The restlessness, the maniacal hallucinations and the quick, small, feeble pulse, with the contracted pupil, and the intense surface heat, and in the more advanced stages the hurried and difficult respiration coming on so suddenly; the great disturbance in the circulation; the

engorgement and damming up of the venous system, with a relaxation of the coats of the veins and at the same time a contraction of the arteries all bear out this opinion,

When I commenced writing this article, I was under the impression that the true distinction between apoplexy and sunstroke had not been drawn, more than twenty years ago, for even as late as that, many physicians treated them both by the same means, viz: blood letting. In looking up the authorities upon this subject, I found in Grave's Clinical Medicine, pages 117-118, the following communication from Surgeon Russel of the 73d Regiment of the English Army, made in May, 1834," I was led by the following circumstance, to reflect on the nature of coup-de-soleil; which, as well as I can recollect, is treated by all authors, and is generally considered to be nothing more or less than true apoplexy produced by the direct influence of the sun's rays; that its pathology is the same and mode of treatment similar,—that is, that all the efforts of the medical attendant, should be directed to the head, as the chief nay, almost the only seat of the disease; and here it strikes me that a fallacy exists, leading to erroneous principles of practice

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The brain was in all healthy; no congestion or accumulation of blood was observable; a very small quantity of serum was effused under the base of one, but in all three, the lungs were congested even to blackness, through their entire extent, and so densely loaded were they, that complete obstruction must have taken place. There was also an accumulation of blood in the right side of the heart, and the great vessels approaching it. This is the pathology which governs our treatment at the present time. Dr. A. Hammer, recently deceased, was one of the first physicians in America to advocate the true theory, as the proceedings of the St. Louis Medical Society show, more than twenty-five years ago.

# TREATMENT.

Much may be done by proper prophylaxis as has been proven with the English Army in India; by avoiding unnecessary movements of large bodies of troops in hot weather; by refraining from drilling or parading in the broiling sun; by clothing

the soldiers lightly and loosely, and by furnishing well ventilated and roomy barracks and dormitories where they can breathe freely and sleep soundly, and above all, by preventing them from the too free use of alcoholic liquors, the occurrence of sunstroke has been rendered much less common.

In this country and in civil life, fortunately the great majority who die from this malady are vagabonds and worthless loafers, whose taking off is of more benefit then loss both to themselves and the community that supports them. Perhaps two-thirds of those who die from sunstroke are taken from this class, but of the other third who perish, many might be saved by using due discretion. When the weather continues intensely hot for several days and nights in succession, and heat exhaustion begins to occur, all persons who can afford it, should refrain from hard labor, unnecessary exposure and too free indulgence in stimulants.

Day laborers and mechanics should work early in morning and late in the evening, and rest in the shade from 10 to 4 o'clock. All proprietors of large furnaces, founderies, machine shops, bakeries, candy factories and other establishments where intense heat is unavoidable, should close their places until the weather moderates. The streets should be thoroughly wet by the sprinkling carts, before sunrise and after sunset, and kept in that condition during the day. Large numbers might have been saved during our late epidemic, had our Board of Health done anything towards the prevention or mitigation of the effects of the intense heat.

They might have printed and posted plain rules for avoiding the malady and also have provided suitable places in every ward, where timely and judicious treatment could have been rendered those who had neither money nor friends, instead of carting them to the City Dispensary, and then transferring them to the City Hospital, which in many instances was the worst possible procedure.

Two or three hours at night upon our Grand Bridge, where there is generally a fine breeze, would have given a new lease to life, to those who remained sweltering in the stifling atmosphere of the city. The physicians in charge of City Dispensary and Hospital did what they could to treat those picked up from the streets, but so far as I could ascertain, the Board of Health as a body did nothing in the way of advice, prevention or relief, and yet the mortality was extremely small for the number attacked. Upon a moderate estimate, not less than three thousand cases occurred in the space of twelve days, and yet of that large number only about one hundred and sixty died, and what is more remarkable, during the epidemic of sunstroke the ratio of mortality in St. Louis was still less than that of any first class city.

Most educated physicians of the present day agree that sunstroke is caused by a sudden overheating of the blood, and although they may differ in opinion as to the modus operandi by which this is effected, there is great unanimity of opinion in regard to the practice to be pursued. The first indication is to remove or check the exciting cause; to lower the temperature of the blood, which is best done by placing the patient in a recumbent position, with the head elevated, in the coolest and best shaded place that can be found near by, removing most of the clothing; making vigorous use of fans, and apply. ing pounded ice to the head and nape of the neck, or if ice cannot be had, the douche of cold water constantly kept up, or sulphuric ether by means of the vaporizer will accomplish the same purpose. Next, to arouse the nervous system and to produce counter-irritation, large sinapisms should be applied to the chest and abdomen, and a stimulating enema of warm water with salt or turpentime be administered. As soon as the patient becomes partially conscious and can swallow without danger, aromatic spirits of ammonia in drachm doses, properly diluted should be given him every twenty minutes. Sometimes alcoholic stimulants in moderate quantities will be more beneficial, and some few physicians prefer sulphuric ether, ten to twenty drops, every fifteen minutes, or in milder cases a cup of very strong and hot green tea. Our aim should be to sustain the nervous systems, to encourage perspiration and to relieve the hyperæmia of the lungs before ædema supervenes, which is necessarily fatal. By this means we relieve venous congestion and encourage the flow of arterial blood to the heart.

In the first stage, there is great restlessness, and sometimes maniacal violence, which must be controlled by manual restraint in order to prevent injury to the patient.

Chloroform or ether, judiciously administered, may be useful for this purpose. If the patient pass safely through this stage, we may place him comfortably in bed; give him a good mercurial purgative; continue the cold applications, and in two or three hours commence the use of bromide of potash in thirty grain doses combined with 10 to 15 drops of tineture gelsemii, every half hour or hour until the head and neck are cooled off and the pulse has become much less frequent.

The bromide acts most promptly and effectively in restoring the functions of the kidneys, and generally causes a very copious flow of urine. In full doses, it answers this purpose better than any remedy I ever used, and at the same time, quiets the nervous system and produces sleep.

Although the external application of cold by ice-bags or the douche is our main reliance in treating sunstroke, it may be injudiciously employed, and its use continued until it does serious harm. I never apply it to the whole surface or to the thorax, unless by suddenly dashing cold water upon the chest, in order to produce a profound impression upon the cutaneous nerves, and thus to reëstablish respiration.

Warm applications, hot mustard baths and other means for encouraging the flow of blood to the surface, are indicated instead of cold in some cases. As there is great thirst, I always allow the free use of ice water or lumps of ice which are eagerly sought for by the patient.

After the imminent danger has passed; the tendency to asphyxia has been checked, and the patient has become composed, we should administer an active mercurial cathartic to be repeated until the liver resumes its normal functions, and eighteen or twenty grains of quinine should be given daily until all danger is passed. Quinine has been recommended very highly as an efficient remedy for sunstroke in early stages. In the American Journal of Medical Sciences for January, 1870, pp. 252, 253, will be found an enthusiastic account of its wonderful power in curing the disease when

given in large and repeated doses by the mouth, if the patient can swallow, and if not, by hypodermic injection. One scruple is administered at first, and then 10 grains every hour until consciousness returns and relief is obtained.

Hypodermieally, from 2 to 4 grains should be injected in each arm, and repeated pro re nata.

During convalescence, great care should be taken against over exertion or undue exposure. The functions of the body should be kept as near normal as possible, and tonics, as quinine, iron and strychnia should be given singly or combined, until there is complete restoration to health.

At our City Dispensary, the applications of ice and ice-water were freely used to the head, neck and thorax and frequently to the whole body, especially along the spine. The cold douche was used from a height of three or four feet. In the convulsive cases chloral hydrate, and bromide of potassium were very beneficial, but cold affusions only aggravated the symptoms. Local applications of sulphuric ether were also beneficial. Sulphate of atropia by hypodermic injections acted well in cases of collapse, as it does in cholera.



# Destructive Lesions of the Cortical layer of the Cerebrum.

BY H. D, SCHMIDT, M. D.,

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(CONCLUSION.)

CASE II.—In April, 1876, Milton Smith, a negro, 77 years old, fell a distance of about 20 feet from a ladder and was taken to the Charity Hospital in a senseless condition. Upon examination, a deep cut into the skin, covering the left portion of the occipital bone, was discovered, and, moreover, a fracture at the upper third of the femur. For three days the patient remained in a comatose condition; then he completely re-

covered his senses, and about seven weeks afterward, when the fracture of his thigh was healed, left the Hospital.

On November the 24th, 1877, the same man was brought again to the Hospital, not only in a comatose condition, but affected with hemiplegia besides. When recovering his consciousness, three days afterward, he was found greatly debilitated, and unable to speak. In this condition he remained until his death, occurring on November the 28th. The autopsy made revealed no disease of the larger cerebral blood vessels, but some severe lesions in the form of two cavities, situated in the gyrus angularis and in the gyrus temporalis medius of the left hemisphere of the cerebrum. As no trace of a previous hemorrhage could be discovered, and as the walls of the cavities were very soft and pultaceous, it may be inferred that the lesions were produced by softening of the brain substance, a view corroborated by the degeneration of almost all the minute blood vessels of the surrounding nervous tissue, which a microscopical examination revealed.

In removing the pia mater from the island of Reil and the adjoining convolutions, forming the so-called "operculum," along the anterior border of the Sylvian fissure, a bluish indurated spot of an irregular polygonal form, and measuring about 8 mm. in diameter, was found in the inferior part of the posterior central convolution, near its juncture with the anterior central convolution, both forming in this place a portion of the operculum. This spot was dotted with dark bluish puncta, and judging from its consistence, appeared to be the cicatrix of an old injury. A microscopical examination showed, that this spot had, in reality, been the seat of former punctiform apoplexy.

The minute hemorrhagic centres were distinctly defined, though not surrounded by fibrinous capsules, characteristic of old punctiform apoplectic foyers. A considerable number of colored blood corpuscles, were, besides, irregularly diffused throughout the nervous tissue. The surface of this spot was slightly indurated, and fibrinous in structure. The substance of the surface was not very closely adhering to the pia mater, but presented the appearance of a delicate cicatrix of the ner-

vous tissue. The minute blood vessels of the surrounding nervous tissue were in a degenerated condition.

It appears that this limited punctiform apoplexy occurred at the time, when the patient fell from the ladder, nineteen months previous to his death,; and, that this accident was owing to a condition of unconsciousness, immediately following the apoplectic attack. The hemiplegia observed before his death must be assigned to those lesions, situated in the second temporal and angular convolutions of the left hemisphere, above mentioned.

CASE III.—John Miller, caucasian, native of Louisiana, 35 years old, and laborer by occupation, entered the Hospital on September 26th, 1877. He was a habitual drunkard, and besides being affected with right hemiplegia, presented the symptoms of an extensive abdominal dropsy. His face was bloated, and his abdomen greatly swollen. Being tapped on the following day, he lingered until December 10th, when he died.

An autopsy revealed an apoplectic cyst, filled with blood and disintegrated nervous tissue mixed, and involving the corpus striatum with portions of the neighboring ganglia and cerebral substance of the right hemisphere. Another lesion of about one inch diameter, and apparently produced by softening of the brain substance, was found in the posterior portion, or root of the third frontal convolution. A microscopical examination of the walls of this lesion revealed considerable degeneration of the minute vessels.

In reviewing the symptoms and lesions, observed in these two cases, a discrepancy existing between them and the theory of the localization of certain motor centres in the cortical layer of the cerebrum, discussed in the preceding part of this article, will be found. Thus, although the hemiplegia, observed in Case II, existed, in accordance with the theory, on the side opposite to that of the lesion; yet, the lesion itself was not situated in those convolutions, forming the motor zone of the cortex cerebri. As regards Case III, it will be observed that though the hemiplegia, also existing on the right side, may have been dependent upon the lesion found in the posterior

part of the third frontal convolution of the left hemisphere, there remains, nevertheless, another lesion in the form of an apoplectic cyst, occupying the place of the corpus striatum, etc., of the right hemisphere, and not accompanied by any paralysis of the left side, to be accounted for. These discrepancies should be satisfactorily explained, before the above theory can be regarded as firmly established.

# The Metric System in Medicine.

BY EDWARD WIGGLESWORTH, A. M. M. D.,

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In answer to the common question "of what special advantage will the metric system be to me and what ought I to do to advance its introduction," it may be said that everyone should do all in his power to further its introduction, since it possesses such great merits in general; that the best way to accomplish this is for each branch of science or education, every profession, trade and occupation to promote the interest of the system to the extent of its power within its own sphere, in order that the sum of all these social parts may equal the whole community, and to be able to give a reason for the faith which is in it, by the testimony, based upon experience, of its individual members or adherents. The special advantages accruing to one such member of a profession accrue to all its members and the reason why the system is so rapidly gaining ground in the Medical Profession is well given in the Metric Bulletin for November, 1876. Thus:

- "1. Because of its great convenience in writing and compounding prescriptions, in dividing doses and in computing quantities required during given times.
- 2. "Because physicians have learned what the system really is in their chemical studies, and to thoroughly understand it is to wish to adopt it,

- 3. "Because of the cosmopolitan character of medicine, a prescription from any one of the score of countries using the system is liable to find its way into a physician's note book, and it is a great convenience to be able to send it to the druggist without spending an hour in adapting it to our tangle of measures.
- "4. Because our medical men, more than almost any other class, are free from that jealous conservatism and bigotry which forbid a fair examination of a thing, though it promises the greatest good, simply because it was not in the *credo* of their fathers.

"Weights and measures enter so little into the every day life of the other learned professions—law and theology—that the interest in those quarters must be prompted by pure philanthropy, while every physician has a practical personal interest in the adoption.

"The druggists, who have facilities for weighing and measuring in the metric system, report a constantly increasing number of prescriptions written in the new form, and we may look to be cured (or killed) in accordance with the international measures before our clothes are made or our provisions dispensed in its denominations."

Scientific Medicine has long employed the metric system as a matter of course, fine work demanding the best of tools. That the domestic drudgery of the general practitioner, prescription writing, stands also in need of the system, is well shown by documents presented to the Comitia Minora of the County Society of New York, which at the annual meeting, November 27, 1876, reported to the Society the following resolution, which was adopted:

"Resolved, That the Medical Society of the county of New York, recommends to its members the use of the metric system in their prescriptions"; and also by subsequent editorials in the New York Medical Record, based upon these documents. [New York Medical Record, December 9, 16, 23 and 30, 1876.]

Thus in the old method of prescribing, various units were employed, viz: the grain, scruple, drachm and ounce as measures of weight, and the fluid drachm, fluid ounce and pint as

measures of capacity. These measures of capacity bear the same name in England but represent very different amounts, a source of great inconvenience in reading English books and a source of practical danger even, since English-made measuring glasses are said to be imported and employed by American pharmacists.

There is another difficulty arising from the use of the same terms for both measure and capacity. Our fluid ounce weighs 455.6 grains, should the physician omit to place an f for fluid, before the ounce symbol (and many never insert this prefix at all), it is the druggist's duty to supply a Troy ounce or 480 grains of the preparation demanded. The German druggists, as the rule, do this, the American takes it for granted that fluid ounce is meant and supplies that. The English solid ounce again is different still, being the avordupois ounce of 437.5 grains. Solutions of powerful drugs may thus vary greatly in quantity.

Accurate measurements with graduated glasses are also very difficult at best, while the ease of employing them leads to great carelessness, which would be obviated were metric weights alone employed. Moreover the graduating glasses themselves are roughly made and sold at \$3 a dozen. showing that very little time or trouble has been spent upon their correct adjustment. A large proportion of the Troy weights in use in this country are also inaccurate, many of them seriously so, the Inspectors of weights not examining the prescription weights, but merely the weights avordupois. The same is true of the ballances employed, many being incorrect, some not turning with fine weights, which are consequently guessed at, while in other cases weights above half an ounce have been estimated by avordupois instead of Troy weight. The practice of medicine necessarily presents so many uncertainties, that we should make an effort if possible to diminish these; and if we can secure uniformity in the dispensing of our medicines, we can thus eliminate at least one variable factor.

In the metric system we deal with but one unit, the gram, equal to a little less than 15½ grains Troy. All integral quan-

tities are expressed in multiples of this, and all fractions in decimals, the decimal point being always placed in its proper position between the integers and the fraction, in the same way that we place the point between dollars and cents in our own monetary notation, and this is the whole of the metric system so far as it immediately concerns physicians. It is expedient for the present to write the words grams in full, and to mark the place for the decimal points. A perpendicular line, as suggested by Dr. W. P. Bolles, should be drawn from the top to the bottom of the right side of the prescription paper. Another merit of the metric system is its convenience in calculating and altering formulæ (metric) when it is desirable to increase or diminish the quantity of the active ingredients, the quantity of the whole mass, and of the dose remaining the same.

The majority of objections to the new system have been raised by ignorant people and are based upon misapprehensions.

- 1. "Thus it is said that the system is complicated and difficult to learn. But on the contrary its simplicity is a great feature and it can be fully acquired in half an hour.
- 2. "It is stated that it will throw us out of uniformity with English practice." Only however as to some of the weights; our measures of capacity are different at present, and it throws us into uniformity with nearly all other countries, namely, with populations aggregating 432 millions, whereas, the population of England is only about 32 millions. By other populations numbering 48 millions, it is already also partially employed. Moreover our best medical literature comes not from England, but from those countries, Germany especially, which use the metric system.
- 3. "It is asserted that we must forget the units of length, volume and weight to which we have been accustomed." Not at all; we merely acquire new ones, and by employing these we shall very soon insensibly begin to think in the new system, which is to be acquired in the same way as a new language, viz: by beginning with it de novo just as we began with our own.
  - 4. "We hear the remark that the druggists are not familiar

with the metric system." Now the truth is that on the contrary they are far in advance of the physicians and strongly in favor of its adoption.

5. "It is alleged that the druggists have not the resquisite weights and will calculate back into the old system and may make mistakes." But all the best druggists have metric weights already, those not having them can obtain complete sets, for about six dollars, a sum which a single day will restore to them from this gain in metric prescriptions. We may also feel sure as has been suggested, of better drugs from a pharmacist educated to use this system than from one who has acquired his experience as a trade learned from his master.

The metric system, therefore, seems to offer the following distinct and definite advantages. It dispenses with the signs of the quantities; it employs Arabic figures instead of Roman numerals; it assures the physician of more competent service from the pharmacist, and of a better quality of medicines; and reduces considerably the danger of mistakes on the part of physician and of druggist.

"It provides" as stated by Dr. T. B. Curtis, "denominations of weight applicable to the smallest quantities which the physician or the pharmacist can be called upon to prescribe or dispense, the old grain being by far too large a unit for the measurement of the powerful drugs which modern chemistry has added to our Materia Medica.

It is decimal in the character of its divisions, and we all recognize the facility of decimal arithmetical operations. By this arithmetical simplicity we are enabled more readily to appreciate quantitative ratios in our formulas and in the resulting pharmaceutical preparations. It enables us to substitute extemporaneous for officinal recipes, and, if these were more extensively used, then comparatively simple formulas would be readily improvised to meet the varying exigencies of individual cases; the tendency to polypharmacy would be diminished; the study and practice of rational therapeutics would be facilitated and the extensive use of patent medicines by physicians, which is the opprobrium of the medical profession in this country, would be lessened."

The metric system is uniform, consistent, international and permanent.

The metric system alone furnishes sufficient accuracy for the chemist and pharmacist. It is necessary in the microscopic measurements of the anatomist and physiologist and in the macroscopic ones of the surgeons. It gives to general therapeutics, the centigrade thermometer and other instruments, and becomes daily more needful as general medicine crystalizes into specialties with their naturally and necessarily greater acquirements in science and consequently greater requirements from art.

Thus, for instance, Dr. E. G. Loring, Boston Medical and Surgical Journal, September 7, 1876, and Dr. H. Derby, in Boston Medical and Surgical Journal, October 12, 1876, allude to the great superiority of the metric system in opthalmology. Dr Derby says, for instance, amongst various reasons for adopting the metric system, that the numeration of (spectacle) lenses is now based upon the metric system and the loss of one's eye-glasses in any part or the civilized world involves merely the expense of a new pair with the focal distance and other attributes of the lost lenses. Formerly the unit of the system in use was a one inch lens, which was too strong for practical purposes and therefore had no real existence. Moreover this very standard was variable, and to ascertain the strength of a lens of a given number, specially a high one, it was necessary to find out in what country is was ground. The Paris inch differed from the English; 36.94 of the former, 39.37 of the latter going to a metric. Between these came the Rhenish and Austrian inches, all differing from each other. A patient asking for No. 2 in London, Paris, Berlin or Vienna, might receive a different glass in each place.

At a meeting of the Heidelberg Society in 1875, and shortly afterwards at the Medical Congress in Brussels, Prof. Donders proposed the metre as the unit of numeration. This system has been adopted by the most eminent opthalmologists and its use is daily spreading. And in our own country the surgeons of the Boston Eye and Ear Infirmary voted in 1876,

"that all future measures of length and refraction be recorded in, and all glasses ordered on the metric system."

The advantage of this uniform numeration of spectacle lenses is obvious. Whereas, in old times, a No. 2 lens meant a lens of two (English, French, Austrian or Prussian) inches focal length, according to the country in which it was ground, it now means a lens equal to two lenses, each having a focal length of one metre, i. e., a lens of 50 centimetres focal length.

Finally, in regard to volumetric or gravimetric methods; supposing the metric system to be adopted, it is a purely subsidiary question how we shall use it, that is whether by weight or measure in prescribing. Measures may be used just as we use them at present in our "systemless system." But it is better to make the complete change at once, since we must come eventually to prescribing by weights alone. For,

- 1. Prescribing by weight gives more exact results.
- 2. When once learned it is vastly more convenient.
- 3. It is perfectly easy to learn. The only difficulty is in the apportionment of doses, since we must continue to allow the patient to take his medicine by the domestic measurement of spoonfuls. Now these doses once learned, will be more easily remembered by weight than by volume, since they will have been made in fixed proportions by weight only, and in the same way prescriptions as a whole will be more readily borne in mind. But there is no need even of this, for there is no trouble in estimating the volume, and consequently the dose of fluids prescribed by weight, for, whether reached by the use of weights or measures, the result is, in either case, the same definite bulk of menstruum, and is to be divided up, of course, in the same manner for doses.

Thus the bulk of a mixture is either an infusion, a tincture, water, or a syrup. Of these, the first three have specific gravities, which are, for practical purposes, identical. The fourth is a third heavier than the others. What is then simpler than, when prescribing by weight, to prescribe of a syrup four-thirds as much by weight as if we were prescribing plain water, thus obtaining the same bulk as if we had used water, which bulk can then be divided up by the patient into his time-honored "teaspoon three times a day." Other liquids.

the specific gravities of which vary markedly from that of water, are very simply, never prescribed in bulk and therefore need not be considered. The increased accuracy derived from the employment of weights more than compensates for any slight variation in the small amounts of these liquids in a single dose of the (menstruum,) a variation less than that in the idiosyncracies of different patients; or would even justify the plan proposed by Mr. Alfred Taylor, of "making the mixture up to a desired bulk by adding a sufficient quantity of the vehicle or adjuvant." Moreover, fixed oils, houey, liquid acids and chloroform, are, by our present pharmacopæia, directed to be always weighed. Why then stop there since we need equal accuracy in regard to other fluids?

If the physician prefers, however, to be strictly accurate on principle, this also is possible. Professor Maisch has called attention to the fact that neither the drop, the teaspoon nor the tablespoon possesses the exact value in bulk usually assigned to it; that evaporation and adhesion militate against accuracy in the use of volumetric methods, it even being difficult, on account of the refraction of light and the thickness and coarseness of the measuring glass, to correctly ascertain the height of the liquid in such glass; that consequently gravimetric methods are preferable, and in the American Journal of Pharmacy for February 1, 1877, he discusses these points at length and "shows that the physician may gradually accustom himself to the change, either by using the tables there given in converting the measures of different liquids into their corresponding metric weights, or by directing the anothecary to dispense them by this weight after converting the weights and measures now in use into grams." [Bost. Med. and Surg. Journal, April 5, 1877.]

To conclude, the gravimetric method is the one employed by all nations using the metric system and it is of the highest importance to avoid courting a disagreeable notoriety by an affected and purposeless singularity based upon indolence and selfishness. As the church, with its common tongue, the latin, is at home wherever churchism extends, so science, by promoting universally identical customs, thoughts and language, must hasten the approach of universal brotherhood, peace, knowledge, and consequently happiness.

# TRANSLATIONS.

Treatment of Asphyxy in the new-born Child.

By E. INGERSLEV.

The treatment of the above-named condition may require much patience and perseverance from us, and although the final result not always compensates our trouble, it does so now and then; and the result is then so far satisfactory that we may be certain to have preserved a life, which otherwise would have been lost.

The division of asphyxy in the new-born child into different degrees is justified as well in prognostic as in therapeutic respect, but the question whether we shall count two, three or more degrees is of less importance, because the limits for the lower degrees of asphyxy are arbitrary, and particularly because they do not indicate an essentially different treatment; it being always the object to produce or increase respiratory movements by peripheral irritants on the skin or the mucous membranes through reflex action. The highest degree of asphyxy is on the other hand characterized by a peculiar condition, viz: that the respiratory centre in the medulla oblongata, cannot be induced to action by peripheral irritants, but only by means that raise its reduced irritability by the supply of arterial blood, that is by artificial respiration.

In former days asphyxy was divided into two classes, the blue or apoplectic and the pale, anæmic asphyxy, and these two classes were kept distinctly apart, especially in therapeutic respect; but this classification has lost its importance since they are considered as different degrees of asphyxy, and the last one as a higher degree of the first one. We may see a child born with symptoms of the blue asphyxy, and if this be not rapidly combated, little by little get the symptoms of the pale anæmic asphyxy.

If the heart be beating, when the child is born, without respiration, or if the child respires by spasmodic inspirations, which are produced only by contractions of the diaphragm without real

expansion of the thorax and with intervals of some minutes, we have to do with the highest degree of asphyxy, and the only way to save the child is by artifical respiration, which has to be instituted, the sooner the better.

It is taught that in the blue asphyxy the umbilical cord ought to be cut immediately and a little blood allowed to escape before ligation, and all agree upon this; but it is undoubtedly wrong to recommend to delay tying the cord until the pulsation has stopped, when we have to do with the pale anæmic asphyxy, where there is no trace of muscular tone, and consequently the highest degree of asphyxy. In the first place an escape of blood is here much more desirable, as the inner organs, specially the heart, are still more engorged with blood than in the blue asphyxy, and secondly there has to be instituted artificial respiration as soon as possible. Here too the umbilical cord ought to be severed immediately. If blood flows, it is well, if not, and that is most often the case, we might, as Scanzoni recommends, put the child in a bath without tying the cord and wait for some bleeding from the navel before tying it; but the attention being occupied in reviving, the bleeding might become more abundant than desired. I think, therefore, it will be better to ligate immediately and compensate the unequal distribution of blood by artificial respiration as quick as possible. It is especially about this I wish to make some remarks.

The formerly recommended method of blowing in air from mouth to mouth is probably entirely illusive, as only the stomach and the intestines get filled with air, still more impeding the action of the diaphragm.

Artificial respiration is now-a-days performed through an elastic catheter. The introduction of this is rendered considerably easier by the perfect muscular relaxation, which usually is to be found when artificial respiration is indicated. Putting the left index on the points of the arytenoid cartilage and introducing the catheter in front of the pulp of the finger, the road can not be missed. It is evident that our first step must be to suck up the contents of the trachea and the larger bronchi. The large quantity of blood, meconium and liq.

amnii we may get up by a single suction, shows this clearly and we cannot beforehand know how much has been inspired. There exists, however, some dissent about the importance of this suction through the catheter, Schultze maintaining that in this way only the mucus in the trachea is eliminated, and this mucus does not impede the respiration, while the liquids inspired into deeper parts of the lungs and the finer bronchi are not reached, and these offer the real danger to the child. This may be so, but when we, as it happens sometimes, by the first suction get a whole jet of meconium-colored lig. amnii out of the catheter, it is evident that this liquid, without previous suction, would have descended deeper into the lungs by the blowing in of air. For this reason, even if the suction does not bring up anything, it ought to be tried under all circumstances, but must be executed rapidly, and we should then begin the blowing in of air as soon as possible, if the child be much asphyxiated; to prolong the suction—as it is recommended by some authors-until the catheter does not get filled any more, would be to lose precious time.

It may happen that the common catheter with openings on the side, introduced in the trachea, may be closed, specially in children who have not come to term. We feel a resistance by blowing in air, the catheter filling the trachea entirely, and the wall of the trachea closing the openings of the catheter. This is obviated by using a cathether which is cut so that it has an opening only at the end, the edge being guarded by a swelled cover of metal. The removal of the liquids in the trachea is obtained more surely in this way, the suction acting more directly on what is lying in the trachea and the bronchi than through the openings on the side of the catheter, which may easily draw in the wall of the trachea.

However deep the asphyxy be, when only the beating of the heart has not stopped, the effect of blowing in air will nearly always manifest itself in a palpable way, the beating of the heart becoming more rapid. This is a reaction that seldom is missed. When the first spontaneous inspirations set in, they usually have the character peculiar to deep asphyxy as above described, and the blowing in of air has to be con-

tinued until superficial but rhythmical respirations have commenced; only then we may commence applying the common peripheral irritants, if necessary, after a little while recurring to the blowing in of air. As long as the heart beats, artificial respiration has to be continued. However poor the chances be when it lasts some minutes before a gasp appears, I recollect a case, where the first inspiration came five minutes after the child's birth, the spontaneous respiration during three-quarters of an hour manifested itself only by spasmodic inspirations with intervals of some minutes, the child yet came to full respiration, and, what still more seldom is the case, later became a robust child. When we do not succeed in our efforts to revive the child, we find besides the missing spontaneous respiration, that the beating of the heart decreases until it stops entirely. It is very rare to see the heart beating for hours, no respiration supervening. I have, however, observed such a case, where the beating of the heart continued with unchanged strength for four hours, while blowing in of air was continued all the time; and yet not the slightest gasp was elicited, not even by faradization. The child had to be given up in this case, in spite of the existing beating of the heart, which stopped only two hours later.

There is no doubt that we possess in the elastic catheter a very active remedy against the highest degree of asphyxy in the new-born child, and that we often have a good result from our efforts. Schultze has made the theoretical objection against the method, that inspiration, as well as expiration, is executed under an incresed pressure in the chest, and that the atmospheric pressure which exists in natural respiration and particularly contributes to accelerate the circulation, is missing. Notwithstanding this, is is however a fact, that the most evident and immediate effect from the use of the catheter is an acceleration of the circulation, which most often will show good effect on the decreased excitability of the medulla. It may happen that the effect on the heart proves to be only transitory and to cease when air has been blown in for some time; but that this should be so in most cases, others do not admit.

Neither do I believe that fear of emphysema—sub-pleural or interstitial—should prevent us from using the catheter even for a long time. In numerous autopsies I have paid particular attention to this point, and have never found this objection justified. It is difficult to give any rule for how much force we ought to employ in blowing in air; and after all, I do not think we can speak of using any force.

Now it may happen that we have to do with a highly asphyxiated child, and that we have no elastic catheter at hand, only the common peripheral irritants. Of these we have perhaps only a poor selection, cold water being the only thing at hand, warm water not to be had or only after the lapse of some time; for the midwife not understanding the use of the catheter, this must often enough be the case.

Before blowing in of air through the catheter became generally used, a great variety of irritants applicable to the skin, the lining membranes of the mouth, nose and rectum, were invented, all with the purpose of producing respiration through reflex action. But in the highest degree of asphyxy no results could be obtained; even if a single respiratory movement were elicited, the first and essential condition for a good result, an accelerated circulation, was missing.

It is for this reason of great importance, besides the catheter to possess a method for artificial respiration, a method which is just as effective, which can be employed without any preparation in all kinds of circumstances, and can easily be learned by anybody. It is specially to this method I wish to direct the attention. The method was proposed by Prof. Schultze in June, and has already been fully mentioned in our literature. As, however, it is not so well known as it deserves, I shall describe the way of performing it in a few words: Standing in a slightly forward inclined position, the obstetrician holds the child with the abdomen turned forward, hanging in his two index fingers, which from behind are placed in the axillæ; the 3d, 4th and 5th fingers rest upon the back, while the occiput is supported by the ulner margin of the hand; the thumbs are lying on the front part of the thorax without exerting any compression, so that the whole weight of the child is resting upon the two hooked indexes. Now the child is swung upwards so that flexion takes place in the lumbar vertebræ, and the lower part of the body by its weight exerts a strong compression of the abdomen; care has, however, to be taken not to swing too fast, but so that the flexion takes place in the lumbar region, in which way the strongest compression from below is exerted. At the moment the child's nates are perpendicularly above the downward turned head, the weight of the body is resting against the thumbs supporting the thorax, by which a strong compression from upwards is obtained. By this act of swinging a powerful expiration is obtained. Now the obstetrician lowers his arms, and by a swing the child's body is stretched; the thorax being free of all compression, expands, partially by its own elasticity, partially by the child's own weight, which acts through the sternal ends of the ribs, expanding the thorax, when the child is hanging again excusively by the axillæ. The intrusion of air takes place in an audible way, and after the swinging upwards the liquid and the mucus that may have been inhaled gush from nose and mouth, and afterward, meconium from the anus. These swingings are repeated eight or ten times, and the result is observed, putting the child in a bath, if one is to be had. If then rythmical, spontaneous, even superficial respi ration exists, the usual treatment for the lower degrees of asphyxy will be sufficient, if not we shall recur to swinging.

Schultze mentions an advantage in his method, the changing atmospherical pressure by inspiration and expiration in contrast to blowing in of air through the catheter. The effect manifests itself very evidently by change of color of the skin, which rapidly from pale livid turns rosy, the first symptom of good effects.

As to the removing of liquid from the bronchi, opinions differ somewhat. Schultze thinks his method superior just on this point. By the powerful pressure on the thorax from upwards and downwards during expiration, the gush from the super bronchi is elicited better than by any catheter and the liquids flow from the child's nose and mouth. Schroeder does not agree entirely with him in this respect, but prefers the catheter. However it be, I think that if a catheter be at hand

and a bath ready, we may commence using the catheter, and that we may with advantage combine the two methods, if artificial respiration has to be continued for a long time. I have, however, more than once had occasion to satisfy myself that both indications, removing of inspired liquid and starting of the respiration, can be fulfilled by Schultze's method, and that by this alone a deeply asphyxiated child can be brought to full respiration. Particularly among those in poor circumstances, when no bath and no assistance is to be had, I have learned to appreciate this method; by immediately instituting the swingings in the above described way, we may obtain a good result by them alone and precious time is not lost before a bathcan be had and the usual treatment of asphyxy instituted.

In certain circumstances Schultze's method does not have the desired effect, and the use of a catheter-when one is at hand—is undoubtedly to be preferred, viz: in children who have not come to term and in partly developed children. The importance of the size of the child we can estimate by the fact that a favorable result appears quicker and the sound of inspiration is heard more powerful, the larger and the more developed the child is: owing to expiration through the more powerful compression of the abdomen by the weight of the lower part of the body, owing to inspiration through the wider expansion of the thorax, the body being supported in the axilla exclusively. Besides, we have to take into consideration the elasticity of the thorax, which is greater in a fully developed child, so that passive inspirgtion is more easily induced than in children who have not come to term, where the thorax is soft. Where in such children, by Schultze's method no audible inspiration be elicited, artificial respiration should be instituted, if possible immediately through the catheter.

It is, however, certain that the use of the catheter requires practice when no time can be spared. To the unexperienced I should by all means recommend to use the method of swinging, when he has to do with a well developed, robust child in the highest degree of asphyxy, and he will quite often be astonished to see how short a time it takes to obtain a good result.—(Hospitals Tidende, 2 R. V. No. 8, Copenhagen, February 20th, 1878).

# CURRENT MEDICAL LITERATURE.

CASE OF HYDROPHOBIA DUE TO A SCRATCH FROM THE CLAW OF AN OWL, NOT RABID.

Dr. James B. McCaw, Professor of Practice of Medicine in the Medical College of Virginia, reported the following remarkable case:

A white man, age 35, unmarried, of generally temperate habits, was under observation 20 days. When first called to the man, he had a nervous and despondent look, and said he did not know what was going to happen. Whenever engaged in conversation during the last day or two, his head was drawn to the left side, and his face and left arm would jerk in a strange way. On inquiry as to the probable cause of these strange movements, he stated that a pet owl had struck him with its claw, some six or seven weeks previously, in the palm of his left hand, producing a slight wound only. The bird, at the time, was not angry, and is living to this day in apparently good health. The injury produced some pain, which, however, passed away in a few days-just as in the case of an ordinary scratch of the hand from other causes. But since the wound had healed, he had noticed that his hand was occasionally flexed, and he felt some pain of a somewhat neuralgic kind in the hand at these times, while a peculiar neuralgic thrill would also run up the left arm. The gentleman dreaded the thought. which had somehow become a suggestion to him before he saw Dr. McCaw, that this was a case of hydrophobia. He remarked that the general appearance of the hand had not changed since the moment the owl had clawed him. To relieve the general restlessness of the patient, and to produce sleep, which he was greatly needing, potassium bromide, grs. xx, was ordered, and within two hours he was to take a scruple more of the bromide. Soon afterwards, the Doctor ordered thirty grains of chloral hydrate. These remedies finally produced a little unrefreshing sleep. This line of treatment was kept up for three or four days, by which time, the left leg also became painful and began to twitch. In fourteen days, the whole body became affected. At this time, he would roam about the house and garden (on the suburbs of this city) constantly; he was sleepless, and had attacks of frenzy. During all of these frenzied spells, he seemed to be conscious of what he was doing, but was unable to control his thoughts or his actions, and was unmanageable by persuasion, and hence he himself begged to be put in a straight jacket, or else to be carried to an asylum, for he said he was crazy. Dr. McCaw had him dressed at once, and carried the patient in his carriage to the Pinel Hospitala distance of about half a mile. On the route, he asked the Doctor if he was not afraid to ride with him, to which Dr.

McCaw replied in the negative. The patient told the Doctor that he loved him, and appreciated his kindness to him, and begged to be restrained should be exhibit any violence towards himself or towards others. On arriving at the hospital, he was very thirsty, but when water was offered him, he could not swallow a drop of it, because of spasms of the larynx and pharenx. He was constantly spitting, or else the thick saliva was dribbling from the corners of the mouth. He was, after this, constantly attended by Dr. Jas. D. Moncure, the Saperintendent of the hospital, and by Dr. McCaw. He was given two drachms of chloral hydrate in two doses, which was administered through a tube passed down the nostrils in the usual manner when patients cannot or refuse to swallow. Calabar bean was also used. He was very violent when he got to the hospital, and hence a straight jacket was soon put on. The chloral and the calabar bean not relieving the intense suffering, hypodermic injections of morphia sulphate, in half grain doses at short intervals were used, which seemed to mitigate at least his fearful agony. He asked for a bath, but as he entered the bathroom, the water was running from the hydrant into the tub, which noise produced the most violent spasms and the wildest delirium the Doctor had ever seen. Chloroform and amyl nitrite were freely used, but did no good whatever; but the constant use of morphia produced such relaxation of the system during the last four days of his life, that he was able to swallow semi-solids and ice-cream, and the spitting of saliva was very much lessened. He died on the tenth day after the active symptoms developed. These active symptoms were not the tonic spasms of tetanus or of spinal meningitis, and the risus sardonicus was not present. No post mortem was allowed.

If there is such a disease as hydrophobia, this case was more like that disease than any case the Doctor had ever before seen in a practice of thirty years, and more. If it was chorea, he never before saw the disease occur in one of the age of the patient. Neither was it hysteria. The gravity of the symptoms, the kind of mania and the fatal result alike forbid that opinion. If it was a case of rabies, it was rabies without the causative virus of rabies, for the claw of the bird has no secretory gland to eliminate such a virus; nor can it be said of the owl as is said of the cat, whose scratch sometimes produce hydrophobia, that the rabies was carried by virus from the mouth to the claw, because cats lick their paws, for that habit is not one to which owls are addicted.

This case confirms a belief that Dr. McCaw has held for years as to the mistaken views held by the whole medical profession, with few exceptions, as to the group of symptoms called hydrophobia being necessarily dependent upon a specific virus, spoken of by writers as that of rabies—a specific poison secreted by glands in the mouth of dogs, wolves and

animals of kindred kind. The name of the disease—hydro-phobia—is based on an error; the victim is not afraid of water—simply he cannot swallow it. Nor is the ejected spittle or saliva a poison, but is the ordinary secretion cast off to

prevent the agony of laryngysmus.

At the next meeting of the Academy, held July 16, the regular subject for discussion being Hydrophobia, Dr. McCaw incidentally remarked that he wished simply to define his position on the question under consideration, which has been misjudged by some, from the remarks made at the last meeting, while reporting the above case. He does not deny the existence of a cerebro-spinal irritation, with the train of symptoms and consequences to which the name of hydrophobia has been given; but he does doubt the truth of the theory of that disease as almost universally held—that it is the result of a specific virus called rabies canina, which, introduced into the human system by the bite of the animal, slowly incubates to its ultimate development. The case reported at the last meeting is to the point. Not the bite of an animal, but a punctured wound of the hand produced by the claw of a bird has developed the so-called hpdrophobia in all its terrors. Such a case leads us to reflect-to reconsider our long cherished views on canine madness, and may end in driving "mad dogs" and "mad-stones"—alike remnants of a past superstition—to that limbo where many of their predecessors may be found to keep them company. Va. Med. Monthly, August, 1878.

[Before deciding that hydrophobia may be produced by a simple punctured wound, would it not be pertinent to inquire how long the pet owl had been in captivity, and whether it were possible that the bird had preyed on the carcass of a dog dead of hydrophobia?—S. S. H.]

SYPHILIS IN THE NEGRO, AS DIFFERING FROM SYPHILIS IN THE WHITE RACE.

Dr. Wm. Powell, of Grenada. Miss., contributes the following paper to the *Transactions of the Mississippi State Medical Association*, 1878:

In preparing a report on the subject assigned to me at our last annual meeting, "Syphilis in the Negro as differing from Syphilis in the White Race," I have been unable to find anything in reference to it in print, but have been assisted by information kindly furnished by several members of this Association, and will give the result in a condensed form.

The two races, white and black, seem to be equally susceptible to the influence of the syphilitic virus; the primary chancre in its different stages, presenting very much the same appearance. Secondary symptoms are not as frequent in the negro as in the white, occasionally buboes form and in some

cases cutaneous eruptions, erythema of the fauces, and muconstubercles about the privates. Tertiary symptoms, such as so often affect the cutaneous, osseous and nervous system

of the white, rarely, if ever, occur in the negro.

Inherited syphilis occurs very frequently in the negro, and is the cause of the greater part of the fatality from this disease. Abortion is often produced, the locus becomes affected, dies and is expelled; in other cases, the child is born alive, at full term, with syphilitic eruptions, or they come on in a short time, say within six months; by far the greater number of these cases die; according to my observation, very few reach two years of age.

The disease is far more amenable to treatment in the negro, than in the white, the cases yield readily, and the cures are

more permanent and satisfactory.

Dr. B. F. Kittrell, of Black Hawk, has furnished a case of a negro man and his wife, both of whom he treated about ten years ago, for primary syphilis. The cases both yielded very readily to treatment; the woman miscarried once or twice, afterward gave birth to syphilitic children at full term. The disease yielded readily to treatment in these children. Her last child did not present any evidence of disease, showing the

parents had lost all taint.

Dr. R. S. Ringgold, of Grenada, has furnished a case of a negro man, to whom he was called several months since; on examination, he found a true syphilitic chancre on the body of the penis, and a large bubo in each inguinal region, both of which discharged pus freely on being lanced; he prescribed for the case constitutional remedies and local applications; in about four or five weeks, he met his patient on the street, who reported himself well; on inquiry, the Doctor learned the case had recovered under the use of slippery elm poultices to the buboes, and red oak ooze to the chancre; no constitutional remedy had been taken. [This looks like chancroid.—Ed.]

From what I can see and learn, the disease is very much on the increase in the negro population since the day of freedom to the race. This would be readily inferred from the free communication that exists among them, and particularly when we take into consideration the habits of the race, the fact of promiscuous intercourse, want of cleanliness, and of all hygienic

regulations.

Comparatively few of the cases are treated by competent physicians; many are treated by queks of both races, with various nostrums, herbs, roots, etc., and, no doubt, many are not treated at all. We are forced to the conclusion that the system of the African has the power of resisting the influence of the syphilitic virus, of greatly modifying its effects, and of gradually eliminating it from the system; and this probably in proportion to the purity of the African blood—the mulatto suffering more than the negro. But for this provision of na-

ture, the whole negro race would be swept from the face of the earth in a comparatively short time, by this disease alone.

Controversy has been going on for some time, relative to the duality of the syphilitic virus. It has occured to me that this question is fully solved by the fact that the virus is modified, in passing through the system of the negro. Syphilis imparted from white to white, continues syphilis indefinitely, producing chancre, followed by its train of secondary and tertiary symptoms, imbuing the whole system of the white. Syphilis imparted from the white to the negro, being modified, becomes syphiloid, producing chancroid, rarely followed by secondary and tertiary symptoms, gradually wears out and disappears from the system; and if imparted from the negro to the white, continues to produce the modified form of disease.—Va. Med. Monthly, August, 1878.

#### FOREIGN PRACTITIONERS IN FRANCE AND ENGLAND.

In view of their nomadic habits and the large numbers of Americans and English whom business, pleasure, or a search for health cause to travel or sojourn in foreign countries, for a longer or shorter time, legislation in other countries limiting the right of foreigners to practice medicine has an especial interest, and for us as individuals, whether medical or lay, hardly less than for the English. A good deal of excitement was created in England last year by the threatened passage in France of a law withdrawing from the Minister of Public Instruction the power which he has possessed for many years, and which under the empire was exercised with extreme liberality, of granting to foreigners permission to practice, and subjecting them instead to the usual examinations of a student coming up for a degree. The English government went so far as to direct its representative to remonstrate with the French government, and has followed this up in their late Medical Law Amendment Bill by a renewed protest, and a proposition of mutual liberality toward "trustworthy" foreign diplomas, at the same time calling attention to the liberal provisions in regard to foreign practitioners contained in their own bill. The bill at present before the French legislature is a modification of that of last year, but still admits of being applied with sufficient stringency to satisfy the most greedy of French practitioners, and is naturally unpalatable to the English. It remains to be seen of how much value the English protest will be on this point; the quid pro quo which she offers in liberality is of very little, there being comparatively so few Frenchmen, either sick or well, outside of France.

As we ourselves are already so nearly affected by any legislation restricting the practice of medicine by our countrymen abroad, as with the increasing tide of foreign travel we are likely to be more so, and as it may become the duty of our

government to make its voice heard in behalf of American citizens, it is worth our while to observe the present tendency of public and professional feeling in England and France as indicated in these bills.

Since the German war the permission to practice in France has been granted very rarely and with great difficulty. This is to be attributed partly to the dislike of the foreigner as a bread winner, which then arose, and partly to the increasing value of the *clientèle*. The provisions of the present bill are substantially as follows:—

Foreign medical men can obtain from the Minister of Public Instruction a remission of the bachelor's degree upon recommendation of the medical faculty, before whom they must pass a preliminary examination. In order to practice within the limits of the republic they must pass two examinations before a government faculty, the one theoretical, the other practical, the torms and substance of these to be determined by the government. This simply gives the right to practice; a second article forbids the assumption of the title of doctor unless obtained in the usual way from a French medical faculty. Then follow suitable penalties. Such restrictions strike us as unnecessarily illiberal, and in marked contrast to the boasted French hospitality, which should not find itself at ease only when a harvest is to be reaped.

The following is the substance of the proposed legislation in the United Kingdom: A foreigner who has practiced medicine at least ten years abroad, upon satisfying the general medical council that he has obtained and still holds a recognized medical diploma granted in a foreign country, and is of good character, and upon payment of the registration fee. shall be entitled, without examination, to be registered as a foreign practitioner in the medical register. A person holding a diploma not recognized may appeal to the privy council. These restrictions seem to us ample for the protection of the public, and more in accordance with the spirit of the age and the solidarity of social interests than those in the French bill, - which do not savor of a republic. The fact that in the United States there are no restrictions whatever to the practice of medicine, either for natives or foreigners, would perhaps not strengthen its position in case our government should find it necessary to advocate the medical interests of its citizens abroad, -Boston Medical and Surgical Journal. August 8, 1878.

#### SUPRA-PUBIC LITHOTOMY.

## By C. W. DULLES, M. D., Philadelphia, Pa.

In a recent number of an American medical journal was an article upon median lithotomy, which contained the following sentence in regard to certain other methods: "The super-public

cutting on the gripe and rectal have all been assigned to well-deserved oblivion, being preëminently unscientific and with-

out advocates in this enligthened age."

It is not to criticise too sharply the sweeping statement quoted that this article is undertaken, but because the evident misapprehension in regard to the merits and status of one of the methods alluded to is not so rare as might be wished that I desire to make a few comments for the benefit of any who have not access to a better source of information. This desire is the natural outcome of an interest in supra-pubic lithotomy (which is no doubt meant by the term "superpubic") that has grown with prolonged study of its history, and the investigation and analysis of more than five hundred cases. These—it may be said by way of explanation—have been gathered by examining the original records in very many works on surgery, and more than three thousand volumes of medical journals—English, German, French and Italian—and an extensive correspondence.

It is not within the scope of this paper to present a detailed statement of the arguments in favor of the general adoption of this method of lithotomy; these may be found, by any one desiring to look the matter up, pretty fully stated in an article on supra-pubic lithotomy in *The American Journal of the Medical Sciences*, for July, 1875, and another in the number for April, 1878. But a few points may be here touched upon, in the hope that their consideration will prevent such hasty gen-

eralizations as have called them out in this instance.

And, first, in regard to the merits of supra-pubic lithotomy. So far from being, "preeminently unscientific," this method has more to recommend it upon purely anatomical grounds than any other, being, when properly carried out, exceedingly simple, easy of execution, free from hazardous complications, and unlikely to be followed by grave consecuntive lesions. But this presupposes—what is not so common as might be imagined—an accurate acquaintance with the anatomy of the parts, and the best way of operating. It implies the correction of some wide-spread erroneous impressions in regard to the relation of the peritonæum to the bladder and the abdominal walls, in regard to the necessity of distending the bladder by injection, and in regard to the requirements to secure suitable drainage after the operation; erroneous impressions which may be found even in some of the most recent writings upon this subject.

The operation in its simplest form is conducted as follows: the skin just above the pubes and over the linea alba is incised to the extent of a few inches, and an easy dissection brings one down to the region of the bladder. This is now pushed up on the end of a sound, passed through the urethra, and secured with a tenaculum. It is then incised to a proper extent and the calculus removed with fingers or forceps. After

which the wound should be covered with a light absorbent and stimulating dressing, the patient put to bed, and the sub-

sequent treatment conducted on general principles.

The question may suggest itself to the reader, as it has often been asked of the writer: "But how does one avoid cutting the peritoneum?" To this there can be but one brief answer: "Exactly as one avoids cutting the carotid in operations on the neck; that is, by knowing where it is, and keeping it out of harm's way." Just here is seen the need for accurate anatomical knowledge, This would prevent the groundless fear that there is great danger to the peritonæum in this operation. As is said in Holmes's "Surgery," "the wounding of the peritonaum must be regarded as a failure in anatomical manipulation;" and it may be asserted without hesitation that the properly-informed surgeon need have little apprehension of so rare an accident. It has occurred, in five hundred and fifteen cases, only tourteen times, nine of which were before the days of anaesthetics, two of the remaining five were through carelessness; and, with all, only four of the patients

From this it must not be imagined that the surgeon can act as if there was no peritonaum. That has been the cause of most of the accidents. Though he should not have needless dread, he should use proper caution. The peritonaum may be encountered; it should be looked for, and, if met, gently pressed out of the way.

Another question which is often asked is: "Does not the blad ler have to be distended with an injection?" To this the answer—briefer than that to the former question—is, "No!" The simplest, and a perfectly satisfactory way to fix it for incission, is to raise it up from within, on the end of a sound, and secure it with a tenaculum. Let any one try this on the

cadaver, and he will see how easy a matter it is.1

Then, in regard to the treatment of the wound: this may be as simple as described above, having good assurance of success, founded upon the result of cases that have been thus treated. So, too, of abstaining from any interference in the subsequent drainage of urine and discharges. There are plenty of cases to demonstrate that Nature is quite competent, in ordinary, to take care of these, and I happen to have just received accounts of two operations, done by Dr. Bahnson, of Salem, North Carolina, where he used no sutures and no catheter after the operation, letting Nature take her own course, with the result of recovery in one case in sixteen, in the other in eighteen days.

I have thus described what I believe to be the simplest method of performing this operation; but at the same time, I think the safety of the patient would be much more assured

If would be well for any one who thinks of employing this method to practice it, if possible, on the cadaver first.

by the adoption of certain modifications, which have been elsewhere suggested,2

And now let us look at the dangers which have been supposed to constitute the great obstacle to the general adoption of the supra-pubic operation. These are two—peritonitis and urinary infiltration, which are over and over again said to constitute hazards to which the surgeon should not subject his patient. Yet, that they are really to be dreaded, as one might suppose by such warnings, is utterly unsupported by facts; more than this, it is overhelmingly disproved by facts. As is said in Pitha and Billroth's Handbuch der Chirurgie (Bd. III., 2th Abth., Seite 111): "From all this it is seen that in general, the pretended danger of urinary infiltration can of itself furnish no contraindication at all to supra-pubic lithotomy." And, again: "Though further it was insisted that in supra-pubic lithotomy the peritonæum was more imperiled, than in any other method, yet this danger also was unreason-

ably exaggerated,"

It may be objected to all this, that nevertheless the books give the mortality after supra-pubic as much higher than after lateral lithotomy. True enough; but that is a superficial judgment which rests upon this aspect of the case alone. One must go deeper to get at a correct estimate of this or any other operation. If this be done, we see that supra-pubic lithotomy has labored under the greatest disadvantages. It has been neglected in teaching and in practice, it has been avoided in the best cases, and had recourse to only in the most desperate and hopeless. The subject has been surrounded with, it must be plainly said, ignorance and prejudice; not ill-will, of course, but just what these words mean, want of correct information and preconceived judgments. In this way it has been employed, amid the host of stone cases, say, five or six hundred times, of which we have now access to only about five hundred, on analyzing which we discover that they comprise those where one would least expect success; operations done upon the oldest patients, for the largest calculi, and often when an immediately previous attempt at perineal lithotomy had failed. Indeed, its disadvantages have been very like those under which tracheotomy labors at the present day. Yet, with all this, the results, taking all cases together, have been almost half as good as the highly-favored lateral method. and for large calculi much better.

If, then, these results have been, under the circumstances, so good, and if the fact that they have not been better is attributable, not to anything in the method itself, but to its circumstances, it may well be demanded of one who advocates it to show that under more favorable circumstances it may

<sup>2</sup> American Journal of Medical Sciences, April, 1878, p. 397.

be expected to compare well with other methods. This can,

I believe, be shown quite conclusively.

There is, in The American Journal of the Medical Sciences, for April, 1878 (p. 400), a table containing the cases of suprapubic lithotomy occurring during the past ten years then known to me, to which may be now added three more which have since come to hand. On looking over these we find, of the entire twenty-three, but two were followed by a fatal result, in neither of which can it be charged to the method itself. And, even if it could, we would still have a death ratio of one in eleven and a half, which is much better than the average in lateral lithotomy, according to the most recent statistics; a showing as good as the most strenuous opposers of supra-pubic lithotomy could demand, or its most ardent advocates—for it is not "without advocates in this enlightened age"—could desire.

It may be asked: "If this be all true, why is the general opinion so unfavorable to the method?" It is plain enough to one who has had opportunity to study the subject carefully. As far back as the time of Cheselden carelessness and unjustifiable violence led to accidents which horrified those who would otherwise have adopted and perfected it. Coming down the line of history we find that it was not freed from the trammels of ignorance and rudeness until the present century was well on its way, and lateral lithotomy had secured an almost impregnable position. There was, then, ground enough for the early warnings against it as a dangerous method, and there can be but little wonder that these were repeated from author to author, without any material modification. So far there can be little objection to this course, for there was nothing to stand against it. But there is no reason, and there is no right, in a continuance of the old way of treating the subject now. It will no longer do for surgical writers, however distinguished in general, to repeat without scrutiny the old charges against supra-pubic lithotomy, and add the weight of their authority to errors in regard to a method of which they have had no personal experience, and, perhaps, no opportunity for observation or investigation.

As an evidence of the appropri ateness of such remarks, let it be noted that until very recently English and American writers have known no better basis for their opinions than the hastily collated and imperfact table of one hundred and four cases which Humphrey 'published in 1850,' being apparently entirely unaware of the existence of a masterly monograph by Günther, of Leipzig, published the very next year, and containing a history and I careful analysis of two hundred and sixty cases.<sup>2</sup> The latter was, of course, accessible to Ger-

<sup>1</sup> G. M. Humphrey, "A Case of the High Operation of Lithotomy," "Transactions of Provincial Medical and Surgical Association," vol. xvii., London. 1837).

<sup>&</sup>lt;sup>2</sup> G. B. Gunther. "Der hohe Steir archnich." Leipzig. 1850.

man surgeons, and consequently we find they have a very different estimate of this method from that of our English-speaking brethren, with their meagre supply of facts. One will get no idea from Bruns, Roser, Bardeleben, Langenbeck, or Pitha and Billroath that this operation is "preëminently unscientific." Their views, founded upon Günther's two hundred and sixty cases, are amply sustained by examination of the five hundred and fifteen upon which the present article rests. Indeed, nothing is more evident, in going over the history of the operation, than that the conviction of its value has ever been in direct ratio to the extent and thoroughness of the research of each investigator.

It is not supprising, then, that, as correct data are presented to the world, we find the interest in it growing and spreading. The investigations of the writer, and the kindness with which his previous requests for communication of facts in regard to this method have been treated, place him in a position to state that supra-pubic lithotomy is at present very far from a "well-deserved oblivion." It commands more attention and has more friends and advocates now—in this country especially, but also in Europe—than ever since the

days of Douglas, Cheselden, Côsme, and Souberbielle.

It is hardly likely to be adopted by men whose early education has led them to regard it as only to be chosen in cases when no other method can be employed, and whose subsequent career leads them to be so satisfied with the lateral operation as to desire no change; but there are not a few who, under the more recent presentation of the subject, are coming to see that it offers possibilities far better than has been heretofore believed, and will not hesitate to give it trial as occasion offers. Some have already done so, and without exception been thereby more satisfied than before that the method should be assigned a position at least equal to that of any other.

It may be an over-sanguine belief that the supra-pubic operation will some day be the most generally employed, and the blind thrusts into the perineal tissues, the prostate gland, the seminal vesicles, be abandoned for that method in which no important structure is endangered, and every step can be followed with the eye; but this belief is held in the world, notwithstanding the grave sentence which stands at the head of this paper. As Franco wrote at the head of his "Petit Traité," in 1561, "Il faut durer pour endurer."—New York Medical Journal, September, 1878.

#### ENLARGED PROSTATE.

Dr. Atlee, in a paper read before the Philadelphia County Medical Society, on enlarged prostate, lays down the three following propositions, with remarks following:

1. That the prostate and its vessels are possessed of unstriped muscular fibre.

2. That the bladder is a hollow organ with an involuntary

muscular coat.

3. That ergot will contract unstriped or involuntary muscular tissue, as it does in the uterus.

Therefore, as a corollary, ergot ought to be a remedy for

enlarged prostrate and its effects.

This was the theory upon which I based practice, and whether the rationale is correct or not, my experience in the use of ergot in such cases had been most satisfactory. Several patients over sixty years of age have been treated with ergot and have been able to lay aside the catheter after having been the victims of its daily use. When called to a case of retention from enlarged prostate, my rule is first to relieve the bladder by means of the catheter, and follow this immediately by ordering twenty drops of fluid extract of ergot every four hours, until the patient gets entire control over his bladder. Until this is accomplished, I continue to relieve him with the catheter every twelve hours. As his power of urination is restored, I diminish the frequency of the medicine, and gradually end in giving a dose every night. A gentleman, who died last month, at the age of ninety-two, was exceedingly ill in August, 1872, in consequence of retention of urine from enlarged prostate, and had to be regularly catheterized for relief. He was placed upon the above treatment, and in a few days was able to do without his catheter. His urinary organs were kept in a good condition by taking a dose of ergot every night, and he enjoyed much better health in consequence, and died recently of old age. I mention this case in particular, because a post-mortem examination proved to me that the prostate had been diminished in size by treatment.

In these cases, it is very common for sedimentary deposits to accumulate in the bladder, which becomes a source of irritation and discomfort, and if the organ should fail to expel its contents entirely, it is best every few days to introduce the catheter to remove them.—Southern Medical Record, Aug. 1878.

# A NEW TREATMENT OF TAPE WORM.

From the results of numerous experiments, M. Bouchut had ascertained that not only ascarides, but fragments of tænia, when placed in a weak alcoholic solution containing one thirty-fifth of amylaceous pepsine, are digested by the fluid in the course of twelve hours. We thus obtain an artificial digestion of the animal matter exactly similar to that which ensues when meat is treated by the same process. On submitting the conclusion drawn from his experiments to the test of practice at the Enfans Malades, M. Bouchut found that the solution of pepsine was eminently successful. If his experience be con-

firmed, a valuable addition will be made to adult as well as infantile therapeutics. In conclusion, we may observe that animal food is, almost certainly, the channel through which the parasite is conveyed; and hence that official inspection of suspected dealers in meat would form a useful adjunct to the practice of the physician.—Louisville Medical News.

# A CASE OF PREPUTIAL IRRITATION.

By C. Pollock, M. D., of Donnelsville, Ohio.

I was called in the night, on the 8th of February, 1878, to see a very large and apparently healthy babe of six months, son of S. F. Had always done well and slept easily up to the 20th of January, when he seemed to suffer from colic, which became worse constantly, in spite of approved domestic remedies. His screams were incessant and outrageous, and he had exhausted the energy and patience of three robust persons, trying to soothe him and get him to sleep, by carrying him in their arms. Examination developed nothing to account for his condition, and I wish to say here that I would not have recognized or treated the case properly, but for the graphic description given in a lecture by Professor Sayre, in the number for October 14th, 1876, of the Reporter.

In answer to my inquiry the father told me the penis was often erect (or, as he expressed it, "as hard as a little stick") during his worst paroxysms, and the diapers constantly wet with urine, which seemed to be always dribbling from him. On inspection the prepuce did not seem to differ from other babes' of the same age, but he would flinch and cry out worse when it was touched.

The parents are intelligent, and I explained the cause and treatment. They did not doubt that it was some irritation about the glands penis, after seeing his actions when touched there, but they said it was rather a severe operation on so young a babe, and preferred I should resort to milder measures first. I tried to stretch the preputial orifice with small forceps, and break up the adhesions with the probe, and then inject warm water and oil; I kept the penis wrapped in cloths wrung out of hot water, with apparent relief.

On the night of the 16th he was again crying and writhing all night, and on the 17th, with their consent, I removed the redundant portion of the prepuce, and with great difficulty separated the mucous membrane from the gland, and found a small ring, of the consistence of cheese, around the neck of the gland. After removing the hardened smegma and washing the part, I applied cosmoline freely, and then applied a warm water dressing, and flattered myself I had done well.

The wound healed speedily, and the babe slept well, but in a short time my mortification was extreme, to find my patient in the condition described by Dr. Brinton, in the number of

the Reporter for June 8th, 1878, and I sincerely regret that his lecture did not reach me sooner, or my case come to me later than it did. The original trouble was removed, and the parents were satisfied with that part of it; but here was a phimosis, where the prepuce would swell out like a balloon when he emptied the bladder, and the urine slowly passed out through an opening which seemed to be getting smaller. The mother was bitterly opposed to having her boy hurt a second time, but finally gave a reluctant consent, and I did nearly as described by Dr. Brinton, as above, and with good success:

but I will know how to do it better the next time.

I saw the boy yesterday, July 19th, sleeping on his mother's knees, and was told by her that he had caused her no trouble since the second operation. I am convinced this babe would have suffered from epilepsy if allowed to go long unrelieved. The mother had several epileptoid seizures while pregnant, but none, before or since, that I can get a history of. The father remarked how easily the trouble could be mistaken and treated for disorders of the stomach or bowels, or worms, etc., and all sorts of remedies, from santonin to spanking, alministered, until the child died or grew up an epileptic, He gave an instance: a consin of his own, now seventeen years old, epileptic and "half-witted," who, he says, he now remembers as having had "erying spells" during infancy, and lying on his belly and acting in the same manner as his own babe, and for which he was alternately spanked and drugged; to day he has phimosis, and his prepus swells out during micturation, as

Would the same train of symptoms follow an irritation of the clitoris in little girls? I had a case of a little girl, two years old, affected with whopping cough, in which the same screaming, crying and general conduct induced me to ask the mother to inspect the genitals, and she informed me there was some slight soreness, for which treatment was given, and she seemed to improve at once.—Medical and Surgical Reporter. August 17, 1878.

## THE DIETETIC VALUE OF LIGHT WINES.

An excellent authority, Surgeon General C. A. Gordon, of the British army, testifies strongly of the value of light wines as supplementary to insufficient food. He says, in a recent letter :-

"During the seige of Paris, not only did I, while on short food rations, experience a desire for red wine, but I felt while using it that, in a measure, it actually supplied to me the requirements of food. When the seige began and food was not very scarce, I used to take half a litre of Chablis. This I at first liked very much, but as food became scarce I found the allowance intoxicating to some degree. I then abandoned it, to drink the common vin ordinaire, which I enjoyed, and felt the benefit of, as I say, my allowance of it being very often nearer a litre than half a litre. In my work on 'Army Hygiene,' I gave my views on the subject generally. What I think is very important is the absence of 'famine fever' in Paris during the siege. This was at the time, by the French medical men with whom I conversed on the subject, considered due, in a considerable degree at least, to the fact that all the population had a quarter of a litre of red wine daily."—Med. and Surg. Rep., August 10, 1878.

## THERAPEUTIC VALUE OF NITRATE OF LEAD.

The late Dr. Madison Marsh, of Louisiana, a few years ago urged upon the profession, through the columns of this journal, the very great value of nitrate of lead in many skin affections and superficial erosions. Some recent observations of an Italian physician, Dr. Galletti, add further evidence on this point. This writer states that he has recently effected a cure in three cases of epithelioma, in one of which the part affected was the nose, in a second the cheek, and in the third the sternum. The mode in which he applied the remedy was by dusting the powder over the affected part, and recovery took place when this had been done about four times. Two obstinate ulcers of the foot, which had proved rebellious to other methods, quickly recovered under the same treatment. Dr. Vanzetti has recently recommended the use of the nitrate of lead in onychia maligna.—Med. and Surg. Rep., August 10, 1878.

## SKIN GRAFTING IN THE COLORED RACES.

A French naval surgeon, Dr. Maurel, stated at a scientific meeting in Paris, that during a two years' residence in Guiana, he had made numerous experiments on epidermic transplantation, placing the graft on persons of different race and color. He found that not only did the graft take well, whatever description of transplantation was made—whether transported from the skin of a black to that of a white, or the reverse—but that there always remained a whitish line at the point of junction, wherein pigmentation was not produced. The pigment disappeared when a graft was transplanted from a black to a white person; but when the two individuals were highly colored, the graft remained black, except at the point of the cicatrization.—Med. and Surg. Rep.. August 10th. 1878.

# ON THE TRANSMISSION OF HEREDITARY RESEMBLANCES. By George Gregory, M. D., Great Lever, Bolton.

For several years, I have noticed, in hundreds of instances, that the first-born son frequently resembles in facial appearance his mother, or one of her ancestors, most frequently her father.

The first-born daughter, in about six ont of every seven cases, partakes of her father's likeness, or his mother's features. When parents have four or five children, the children which follow are most frequently compounds of both parents in personal appearance. A large majority of women have a greater affection for their first-born son than for any other child, sometimes than for all their children. Mothers seldom readily confess this; but, if asked in a confidential sympathetic tone, as though there was nothing improper in having a favourite child, they will generally admit as much as warrants the conclusion to which I have come.

"Can a woman forget the son of her womb," not a son, much less a daughter? Women are influenced more by passion than by principle; they are more partial, and therefore less just, than men.

I was lead to make the above comparisons from an observation made, twenty years ago, by one for whom I had great regard, and who had been very unfairly treated by his mother. Whether the frequency of these occurrences, with the proverbial exceptions which attach, or seem to interrupt, the uniformity of all rules, is sufficient for them to be designated as rules, I am doubtful. I certainly do not claim for them the dignity of a law; which the judicious Hooker defines as "that which determineth the force and power; that which doth appoint the form and measure of working: the same we term a law." Hereditary tendency to disease seems to follow, but not with equal frequency, hereditary fascial likenesses.—British Medical Journal, August, 1878.

#### BACTERIA AND THEIR PLACE IN DISEASE.

Professor Burdon Sanderson, in his third lecture on "The Infective Processes of Disease," delivered during the past winter in the theatre of the University of London, described some experiments which had led him to the startling conviction that bacteria or their germs may exist in the tissues of the animal body without in any way interfering with health. (See British Medical Journal, January 26th, 1878, p. 119.) The experiments and the inferences derived from them were, it was stated by Dr. Sanderson, not original, similar investigations by Dr. Tiegel, described in the sixtieth volume of Virchow's Archiv, leading apparently to like conclusions, and Professor Billroth is understood to share the same opinion.

The question, apart from its scientific interest, has great practical importance. If, as Dr. Sanderson believes, the germs of bacteria are present in the living healthy tissues, Professor Lister's explanation of the results of antiseptic dressing is unacceptable; and although an attempt to disconnect theory and practice may for a time be partially successful, there can be little doubt that, in the present instance, the first establish-

ment of the Lister treatment on a scientific basis, and its general adoption by surgeons, depend to a large extent on the views entertained regarding the relations of low organisms to

the animal economy.

It was, therefore, to be expected that the publications of Dr. Sanderson's lectures would give an impetus to studies in this field. A correspondent to this Journal (March 2nd, 1878) has already called attention to a point on which Dr. Sanderson's description is incomplete. When the liver and kidneys of healthy animals had been allowed to fall uncontaminated into fused paraffine at the temperature of 230 deg. Fahr., "the soft kernel of uncooked tissue at the middle of the organ after a day or two always contained bacteria, the vigorous development of which was indicated by their large size, countless numbers, and active movements." Observers who may repeat this experiment will certainly, with our correspondent, desire to know in what form the bacteria seen by the learned Professor were found.

Not the least merit of Dr. Sanderson's lectures is that they are directly suggestive of experiments which may corroborate or control the results obtained by himself and other workers in the same field, and it is with pleasure that we direct attention to the first-fruits of this stimulus in an able paper by Messrs. Chiene and Ewart in a recent number of the Journal of Anatomy, These gentlemen give an answer, supported by experiments, to this question, "Do bacteria or their germs exist in the organs of healthy living animals?" in a sense contrary to that given by Dr. Sanderson. Their method of

procedure and its results are as follows.

Providing themselves with a spray-producer, one in twenty solution of carbolic acid, antiseptic gauze and unprepared gauze, macintosh cloth, calcined flasks, and a small quantity of fluid teeming with bacteria, they killed a rabbit, opened the abdominal cavity under the spray, and removed the liver, spleen, kidneys, and pancreas. The liver was divided into several portions, and still under the spray some of these were wrapped in antiseptic gauze, others were placed in calcined jars, which were protected by wool, gauze, or glass caps. The kidneys, spleen, and other glands, were either wrapped in anticeptic gauze, or placed in calcined flasks. One kidney was kept in the ordinary air, and another, after having had a solution containing bacteria injected into its substance through the renal artery, was wrapped up in antiseptic gauze. The experiments were repeated several times.

Three days after performing the experiments, small portions were removed under the spray, with a pair of fine dressing forceps, from the surface and the centre of each organ. In the portions from the unprotected organ, numerous characteristic active rods, resembling in every way those of bacterium termo, were found, as well as numerous micrococci. In the portions

from the liver wrapped in unprepared gauze, only a few short active rods were found, but a considerable number of fine active-jointed bacilli were present. The kidney into which bacteria had been injected, putrefied; its centre was pulpy and dark coloured, and when a small portion was examined, large active bacteria were seen in great numbers. The kidney, on the other hand, which had been placed in the calcined jar, did not putrefy, and contained no organisms. In the portions from the liver wrapped in unprepared gauze, only a few short active rods were found, but a condsiderable number of fine active-jointed bacilli were present. In all the other portions examined, no evidence whatever of organisms was obtained. Isolated moving granules were numerous enough, but the movement was simply of a Brownian nature; they were not dumb-bell shaped, as if in process of division, and they were neither zooglea of rods, spores, or micrococci; in fact, not a single bacterium, either in rest or in motion, was visible in any of the preparations.

Three days later, the examination was repeated with the

same results.

These observations of Messrs. Chiene and Ewart (which we have given almost in the authors' exact words) are irreconcilable with those of Dr. Sanderson, even after making every allowance for the difference of the methods employed by them and by the latter experimenter. Admirably contrived, however, as their methods are to solve the question at issue, we must express our regret that they did not think it advisable to repeat Dr. Sanderson's experiments by Dr. Sanderson's method. In the presence of these contradictory conclusions, this becomes a matter of the first necessity. Convincing as their investigations seem to be, and weighty as the names of Mr. Chiene and Ewart in all matters connected with antiseptic operative procedures and the detection of bacteria by microscopic observation are, the testimony of authorities like Billroth, Tiegel, and Sanderson, cannot be rejected, except after the most careful scrutiny. There is a flaw on one side or the other, either in the methods or in the observations, and to detect where it lies is now the first duty of those who take up the work. We trust that the important issues in practical surgery which are involved in these experiments will induce observers from various sides to follow step by step the road laid down by Dr. Sanderson, on the one hand, and Messrs. Chiene and Ewart on the other.

Our space will not allow us to notice all the points raised in the memoir in the Journal of Anatomy, but there are remarks on the relation of organisms to the blood and their passage through the ducts of glands, which are too important to be passed over. It is suggested that, as blood can be kept any length of time without putrefying, it cannot in its healthy condition contain bacteria or their germs; and that as Mr.

Lister has by squirting milk direct from the udder of the cow into calcined jars, been able to keep it absolutely sweet and free from organisms, it follows that organisms do not enter the milk-ducts, although their orifices are constantly brought into contact with substances which are loaded with them. It is to be presumed, therefore, that although bacteria are present in the digestive tract, they need not necessarily be able to penetrate the ducts of the glands that communicate with the surface of the mucous membrane.—British Medical Journal. August 3, 1878.

#### THE THEORY OF DISINFECTION.

By BUCHANAN BAXTER, M. D., Prof. of Mat. Med. and Therapeutics in King's College, etc

In a paper on "The Chemical Theory of Contagium compared with the Corpuscular Theory," which appeared in last week's Journal, Dr. Notter makes some comments on my "Report on an Experimental Study of Certain Disinfectants," which was published in 1875. It is not my intention to enter into any controversy on the very interesting subject to which Dr. Notter's paper is devoted; but as he appears to have altogether misapprehended my meaning in some rather important particulars, and as his paper will doubtless be read by many who have never heard of mine, I trust that room will be afforded me for an explanation.

In the first place, I did not, as Dr. Notter seems to imply, advance the statement that the "infective principle is neither soluble nor diffusible" on my own authority. It is a legitimate. nay, an unavoidable, deduction from the well-known experiments of Professor Chauveau and Dr. Burdon Sanderson on the contagia of small-pox, cow-pox, glanders and ovine variola. It is, of course, open to any one to urge that the evidence thus furnished is inadequate—that we are not justified in extending to all contagia what has been proved to be true of some only; but, until evidence of the same order and equal weight has been brought forward on the other side—and I am not aware that this has yet been done—we are surely entitled, at any rate provisionally, to accept the conclusion in question.

Again, the statement that the infective principle is probably non-volatile, is not, as the reader of Dr. Notter's remarks might fairly suppose, a mere hypothesis or inference. It rests on experimental evidence obtained in the case of small-pox, ovine variola, and cattle-plague. (A brief account of the experiments is given on page 219 of my report.) In short, the assertion that the contagia of certain communicable diseases are neither soluble, diffusible, nor volatile, is grounded on a substantial basis of observed facts; it is not what Magendie was so fond of stigmatising as a "vue de Vesprit."

All this, however, only goes to show that contagium is particulate; it does not show that it consists of living "germs,"

It is quite compatible with the belief that the virus of infective inflammation is "simply fibrinous exudation, which after coagulation, has acquired poisonous properties." Whatever may have been my opinion on the subject of "germs," I was

careful to keep it well apart from my investigation.

This brings me to the very point to which I wish to draw attention. So far from making the above mentioned facts—which Dr. Notter terms my "unquestionable premisses"—the starting point of my inquiry, I took great pains to show that the method of research which I ventured to advocate for the determination of the relative value of disinfectant agents differed from those previously followed, in yielding results wholly independent of any theory concerning the intimate nature of the contagia. In this complete independence I conceived the special value to consist. Conclusions arrived at in accordance with the principle laid down in my Report, would lose none of their force were the "chemical" theory, which Dr. Notter is inclined to favour, universally accepted as the true one.

The essential nature of the infective principle is a problem of vast importance and corresponding difficulty. Were it necessary to solve it before trying to ascertain the value of our disinfectant measures, our hands might remain tied for a long time. I did my best to show that the obstacle might be turned, as it could not be surmounted.—Brit. Med. Jour. July 27, 1878.

#### THE SODA TREATMENT OF BURNS.

When we drew attention, some time since, to the remarkable efficiency attributed by some practitioners to the use of saturated solution of carbonate of soda in immediately relieving the acute pain of burns and scalds, and alleviating their results, some of our correspondents subsequently expressed their disappointment at the results. This appears to have been due to the employment of relatively weak solutions of soda. The following is reported in the Student's Journal of June 8, by Mr. W. Minors of the Staffordshire General Infirmary. J. S., aged 42, a furnaceman, was brought, suffering from a burn involving the whole of the left arm, from the middle of the humerus downwards. He complained of intense pain, and blisters had risen. A saturated solution of the carbonate of soda (half-a-pound of soda to three pints of water) was at once applied on lint, and kept wet by constant application of the solution. The relief was immediate. The dressing was removed after three days. No slough had occurred. The arm is now quite well. In dressing and using the solution, the only things necessary are to see that the whole of the burnt surface is covered with the saturated lint, that it is kept constantly wet, and that the first dressing is not removed for at least three days .- Brit. Med. Jour., July 27, 1878.

#### THE DIAGNOSIS OF AMYLOID KIDNEY.

In spite of the great advances that have been made in our knowledge of the clinical phenomena associated with the several morbid processes in the kidney which were formerly roughly joined together under the name of Bright's disease, it cannot be doubted that there still is very considerable difficulty in accurately diagnosing the anatomical conditions of the kidney, a difficulty shown by the not unfrequent failures of even those most conversant with the subject, and which may be attributed in part to the combination of two or more of the processes being present; in part to the distorted relations and exaggerated value of some of the phenomena which have been too dogmatically relied upon as characteristic of this or that anatomical condition; and again, in part, from the absence of any sufficiently significant circumstance or group of circumstances in many cases. Thus, acute parenchymatous nephritis frequently supervenes upon interstitial nephritis, and for the time masks all the symptoms peculiar to it; amyloid degeneration often accompanies the later stages of chronic parenchymatous nephritis, or even insterstitial nephritis, but without producing any sign which could reveal the modification in the state of the kidneys. Albuminuria occurring in the course of long-standing suppuration is too generally regarded as indicative of amyloid degeneration of the kidney: but chronic parenchymatous nephritis occurs under similar etiological conditions, and also gives rise to albuminuria. Lastly, albumen may be absent from the urine in cases of either contracting or amyloid kidney.

The difficulty of diagnosing the contracting form of kidney is well known: possibly, most cases are only recognized in their later stages; but sooner or later albumen will be found in the urine. In amyloid kidney, unfortunately, this is not so. It has been generally recognized (Granger Stewart, Bartels) that in the earlier stages of the malady albumen might be absent or intermittent in its appearance; but it has not been admitted that a case could exist for months and proceed to a fatal termination without albuminuria having been at some time present. Bartels, indeed, is most emphatic as usual: he says, "I am sure that I never yet found distinctly marked amyloid disease of the kindey in the bodies of persons whose urine during their lifetime had been tested by me for albumen without its being discovered." M. Lecorché (Traité des Maladies des Reins, Paris, 1875) has maintained, indeed, that amyloid degeneration per se does not give rise to albuminuria, but that the latter results from the parenchymatous nephritis with which, according to him, it is almost always combined; both which statements are positively contradicted by Bartels. Quite recently, Dr. M. Litten (Berlin, Klin: Wochenschrift, June 3rd, 1878) has published details of four cases which plainly establish the fact that amyloid degeneration of the kidney may be present without giving rise to albuminuria or polyuria, and that the presence of the degeneration can at best be only suspected.

His first case was a phthisical boy, who was under observation three months before death: the urine averaged generally from thirty to forty ounces (specific gravity 1011-15), sinking to ten or fifteen ounces in the later stages; there was never any trace of albumen. The second case was also one of phthisis, and was under observation thirteen days: his urine averaged thirty ounces daily, of specific 1010, containing no albumen. The third case was one of visceral syphilis: urine under thirty ounces; specific gravity 1011-13; no albumen. The fourth case was communicated to the author by Dr. Weigert: the kidneys were amyloid, and there had been no albuminuria before death. The small quantity of urine in the first two cases is explained by the presence of diarrhæa. But this was absent in the third,

It seems, therefore, certain that we possess at present no sure diagnostic of amyloid degeneration of the renal vessels; that, on the one hand, it is likely to be confounded with, or mistaken for, chronic parenchymatous nephritis arising under identical etiological conditions; on the other, it runs a great risk of being altogether overlooked. But both of these evils may be avoided with a little care. Bartels points out that the differential diagnosis between amyloid disease and chronic parenchymatous nephritis depends upon the distinguishing characters of the urine, which, in the former, is clear with little sediment and few casts, mostly hyaline, and scarcely ever blood-corpuscles; in the latter it is always more or less turbid. with considerable sediment, is dirty coloured, contains many casts of every variety, and not uncommonly blood-corpuscles. In those cases in which no albumen was present, there have been signs of amyloid disease in other organs; and in order to escape error, it will be enough to know that the absence of albumen from the urine does not exclude a slight degree of amyloid disease of the kidneys.—British Medical Journal, July 27, 1878.

#### THE VOLUME OF THE CRANIUM.

At the meeting of the Academy of Science on July 8th, M. Le Bon read a paper on experimental researches on the variations of volume of the cranium, and on the applications of the graphic method to solution of various anthropological problems. In it he stated that a superior race contains more of voluminous crania than an inferior. Among one hundred modern Parisian heads, there are but eleven with a cranium of 1,700 to 1,900 cubic centimètres; in the same number of Negro heads, not one will be found of such size. The weight of one hundred masculine Parisian brains of the present time varies between 1,000 and 1,700 grammes; the volume, between 1,300 and 1,900 cubic centimètres. The difference between the largest and smallest

brains among modern Parisians is three times that obserdvei n the Negro, and it is greater than in the Parisians' ancestors of six hundred years ago. Stature has only a very slight influence on the volume of the brain. With equal stature, woman has a much less heavy brain than man. Rising in the scale of civilization, the difference in weight of brain (and so volume of cranium) between man and woman is found constantly increasing: thus the average difference of crania of the present Parisian men and women is nearly double that between the crania of the ancient Egyptian men and women. Persons having the same circumference of crania may have differences in volume of over 200 cubic centimètres; but, operating on series, one centimètre of circumference corresponds to an increase of about 100 cubic centimètres in volume. Certain relations are found to exist between circumference of crania and head and volume and weight of brain. The cranium is always unequally developed on the two sides, without apparent relation.—Brit. Med. Jour., July 27, 1878,

#### OFFICE SURGEON GENERAL, U. S. M. H. S., Washington.

Abstracts of Sanitary Reports received during month of August and September, under National Quarantine Act:

## No. 5, August 10, 1878.

Port Eads:—Yellow fever has appeared at Port Eads—mouth of Mississippi, on 5th inst. 13 cases, but no deaths to yesterday noon.

New Orleans:—Since last report 236 cases yellow fever and 65 deaths, making 431 cases and 118 deaths to yesterday noon. At

Cincinnati:—there have been only 2 cases yellow fever (one previously reported), both from New Orleans—one fatal. A young man arrived at

Memphis from New Orleans, July 30, who died of yellow fever August 3d.

Steamer "Golden Crown" from New Orleans had one case yellow fever on passage up—a lady who died on board and was buried at

Caledonia, Ill., August 4. Two deck hands supposed to have

yellow fever landed at

New Albany, Ind., July 25, proved, upon investigation by Surgeon Long of this Service, not to have had that disease. On a steamer at Vicksburg, a case arrived at Cairo, originally from New Orleans; died of yellow fever August 9.

Rey West: -- No new cases yellow fever past week to noon

to-day.

Havana: -239 deaths from yellow fever and 21 from small-pox,

during two weeks ending August 3d.

Matanzas:—From July 26 to 29 no yellow fever cases, but on 30th four new cases were reported in bay, and others have since occurred daily to August 2d—date of advice.

Cardenas: — Yellow fever in city, but not yet among shipping. Sagua la Grande, Cuba: —One fatal case yellow fever in

shipping,

Bombay: -26 deaths from cholera week ended June 18th.

Malta: Outbreak of cholera on British troop-ships from India was brought under control by authorities, and disease did not lodge in Malta—advices to July 18.

Reports from other places indicate good health.

#### No. 6, August 17th, 1878.

New Orleans:—Since last report 471 cases yellow fever and 121 deaths, making a total of 902 cases and 239 deaths, of which 108 cases and 29 deaths occurred during 24 hours to noon yesterday.

Fort Eads: -33 cases of yellow fever and 5 deaths during

the week to yesterday evening.

Grenada, Miss:—The first case of yellow fever occurred July 25. To noon yesterday there had been 125 cases and 47 deaths.

Mobile:—One death from yellow ferer yesterday—a colored woman, who it is reported, had been on an excursion to Biloxi.

Miss., July 24.

Cincinnati:—Since last report a young woman living in a house where baggage believed to be from New Orleans, was stored, died of a fever resembling yellow fever. Another case of fever of similar character has since developed in the same neighborhood. Steamer John A. Porter from New Orleans had 4 deaths from yellow fever before arriving at Cincinnati, which city she passed on Friday bound for Pittsburg with several cases on board. One man who left the John Porter at Louisville, proceeded to Cincinnati by rail where he was sent to hospital on the 13th inst. with fever. The Steamer Golden Rule passed Cairo yesterday evening for Cincinnati, with 2 cases yellow ferer on board. Two deaths occurred on board that vessel Thursday.

Several people from New Orleans and Port Eads have sickened or died of yellow fever on their journey northward; one case at Covington, Ky., one at Cairo, and three deaths at

St. Louis.

Memphis:—The first case of yellow ferer occurred August 13th, in the person of a woman whose eating house was frequented by river boatmen. The disease has spread rapidly but has not yet assumed a malignant type.

Vicksburg: Yellow fever has appeared since last report; the

first death occurred August 12. Advices to noon to-day report the outbreak of the disease near river front within last fifteen hours, from whence it is spreading rapidly.

Havana: -99 deaths from yellow fever and 9 from small-pox

during week ended August 10.

Cardenas and Sagua la Grande, Cuba: - No cases of yellow

fever during week ended August 9,

Matanzas:—Decrease in yellow ferer week ended August 9. Calcutta:—10 deaths from cholera, week ended June 15th. Bombay:—25 deaths from cholera, week ended June 25th. Reports from other places indicate good health.

#### No. 7, August 24th, 1878.

New Orleans:—During the week ended yesterday noon there were 771 cases of yellow fever and 295 deaths, making in all 1673 cases and 534 deaths. During the twenty-four hours to noon yesterday there were 123 new cases and 40 deaths.

Vicksburg:—At least 400 cases yellow fever from date of commencement, August 12, to yesterday evening, and 69 deaths; 20 deaths during last twenty-four hours. Dr. Booth, in charge of the Marine Hospital Service at that port, telegraphs: "I am sick; impossible to procure accurate data."

Memphis: -144 cases of yellow fever and 53 deaths during

six days to Friday evening.

Canton, Miss:—First case of yellow fever occurred at Canton on August 1st. To yesterday evening there were 18 cases and 8 deaths.

Port Gibson, Miss:—First case of yellow ferer, originating in Port Gibson, occurred August 3d, resulting in death August 8. The disease began to spread August 14—118 cases and 9

deaths to yesterday morning.

Cincinnati;—To yesterday evening no more cases yellow fever had developed at Cincinnati since the two mentioned in the last report. The engineer of the steamer "Golden Rule" was admitted to hospital the 22d inst. with yellow fever, and also one other case, probable yellow fever from Memphis.

Morgan City. La: -One case of yellow ferer August 21st,

patient from New Orleans.

Ocean Springs, Miss:—3 cases yellow fever and 1 death—all imported.

St. Louis: -4 refugees died of yellow fever at St. Louis during

past week.

Louisville:—4 river boatmen suffering from yellow fever are under treatment in an improvised hospital on the Marine Hospital grounds, admitted from steamers "John Porter," "Sunflower Belle" and "Golden Crown" on the 17th and 18th inst.

Mobile :- The case reported as yellow fever August 16th, is

now officially announced as undoubtedly a mistake. Dispatches to 23d inst. report good health.

Key West:-No yellow fever for three weeks to yesterday

evening.

Grenada, Miss: - So many of remaining population stricken with the ferer that definite information of number of cases and deaths could not be obtained.

Havana: -90 deaths from yellow fever and 6 of small-pox,

week ended August 17th.

Matanzas: - Decreased cases yellow fever. Only 5 American vessels in port August 16th, and all of them have either had or were having cases of yellow fever on board.

Cardenas and Sagua la Grande, Cuba:-No yellow fever.

Advices to 16th inst.

Bombay: -33 deaths from cholera and 15 from small-pox, week ended July 2d.

Calcutta: 19 deaths from cholera and 36 from small-pox, week ended June 22d.

Report from other places indicate good health.

# No. 8, August 31, 1878.

New Orleans: - During the week ended yesterday noon there were 1204 cases of yellow fever and 333 deaths, making in all 2877 cases and 867 deaths. During the twenty-four hours to noon yesterday there were 169 new cases and 59 deaths.

Vicksburg:—During the week ended yesterday evening there were 116 deaths from yellow fever, making 185 deaths in all. 17 of which occurred during the last twenty-four hours. It is estimated that 800 cases of fever have occurred to date, about half of these in the past week; and 59 new cases in the last twenty-four hours. Dr. Booth, in charge of the patients of the Marine Hospital Service, died the 27th.

Memphis: -721 cases of yellow fever and 241 deaths for the

week ended August 29th.

Morgan City, La:-The refugee reported last week sick of yellow fever died August 23d. Seven other cases have since occurred, and 4 deaths in all to yesterday noon.

Bay St. Louis, Miss: - One death from yellow fever occurred the

18th instant.

Ocean Springs, Miss: - Three cases of yellow fever occurred yesterday morning. No deaths during this week.

Water Valley, Miss: Two cases yellow ferer, both refugees; the first occurred on the 12th and is convalescent; the second on the 26th, which terminated fatally yesterday.

Holly Springs, Miss: - Seven cases of yellow fever and two deaths to yesterday evening-all refugees. Good health in

the city and the U.S. Military Camp.

Leighton, Ala: - A refugee from Memphis arrived August 18, and died of yellow fever August 24th.

St. Louis:—Eight cases of yellow fever during the week and two deaths—all refugees. At quarantine, below St. Louis, there were 6 new cases and 1 death, besides 20 doubtful cases admitted during the 48 hours ended yesterday evening.

Cairo, Ill.,-A river boatman from Memphis died of yellow

fever, August 24th.

Louisville:—Since last report 11 refugees and boatmen have been attacked with yellow fever after arrival in Louisville, 4 of whom have died.

Cincinnati:—9 cases of yellow fever—5 from steamboat "Golden Rule"—and four deaths, have occurred since last report. Two of the deaths were the cases reported last week. All came from infected places South.

Wheeling, W. Va .: - Case reported through the Press on the

28th, officially pronounced not yellow fever.

Pittsburg, Pa.:—A deck hand on the steamboat "John A. Porter" arrived August 25, and died next day of yellow fever. Philadelphia;—2 cases of probable yellow fever occurred

Philadelphia;—2 cases of probable yellow fever occurred August 24, the persons having arrived from Vicksburg a few hours previously. They were immediately removed to the hospital for infectious diseases.

Havana:—71 deaths from yellow fever and 6 from small-pox

during week ended August 26th.

Clifton, England:—The U. S. Consul at Bristol, England, reports a severe outbreak of euteric (typhoid) fever at Clifton, near that place; which had been traced to the use of milk from a farm where the pump is five yards from the privy vault. Previous to the outbreak a young lady had been carried to the farm house to complete her convalescence from euteric fever. A wholesome lesson is given in the action of the medical officer of health, who notified the farmer that if he let any member of his family use the contaminated pump water and disease arose from it, or if he sold any milk and disease arose from it, he would lay information against him of having committed manslaughter.

Trieste, Austria: Some cases of the plague have occurred at

Trieste.—Advices to August 17th.

No reliable information received from Key West, and no official reports obtained from Grenada, Canton and Port Gibson, Miss., and Port Eads, La.

Reports from other places indicate good health.

# No. 9, September 7th, 1878.

New Orleans:—During the week ended yesterday noon there were 1732 cases of yellow fever and 526 deaths, making in all 4609 cases and 1395 deaths. During the twenty-four hours to noon yesterday there were 280 new cases and 61 deaths.

Port Eads, La:-During the past week there was one death

from yellow fever, but no new cases.

Morgan City, La.:—During the week to yesterday noon there were 14 cases of yellow fever and 2 deaths, making in all 22 cases and 6 deaths.

Vicksburg:—During the week ended yesterday evening there were 181 deaths, 41 of which occurred in the last twenty-four hours, making in all 366 deaths. About 2500 cases have occurred since the outbreak. Surgeon Keyes telegraphs that "the fever is on the increase, and it is impossible to obtain accurate data."

Grenada:—Dr. Warren Stone reports 96 new cases of yellow fever and 49 deaths during the week ended yesterday evening.

Canton, Miss.:—During the fortnight ended yesterday noon there were 172 cases of yellow fever and 22 deaths, making in all 190 cases and 30 deaths. There are 120 cases under treatment, of which 16 occurred during the last twenty-four hours.

Ocean Springs, Miss.:—During the week ended yesterday evening there were 15 cases of yellow fever and 5 deaths.

Holly Springs:—The first case of probable yellow fever occurred on the 27th of August, resulting in death Sept. 1st. 2 deaths from undoubted yellow fever followed on the 2d. To yesterday evening about 100 cases and 25 deaths had occurred. More than one-half of the population fled the city between the 2d and 5th inst. All of the members of the Board of Health are sick.

Memphis:—For the week ended Thursday evening, Sept. 5th, there were 529 deaths from yellow fever. Dr. Thornton reports that the number of cases cannot be obtained. During the week before, the number of deaths (241) and the number of cases (721) were as 1 to 3.

Hickman, Ky.—The first case of yellow fever occurred August 16th. There were 60 cases and 24 deaths to yesterday evening.

Louisrille:—For the week ended yesterday evening there were 25 new cases of yellow fever and 7 deaths, all refugees and river boatmen.

St. Louis:—During the week ended yesterday evening there were 3 deaths from yellow fever—2 refugees and a resident nurse who attended the refugees in hospital. At quarantine, below St. Louis, there were 10 new cases admitted, and 9 deaths, all refugees but one,—the stewart of the quarantine hospital, who is now sick, he having contracted the disease at quarantine. All boats and trains from infected districts are prohibited from entering the city, which remains healthy.

Pascagoula, Miss.:—3 cases of yellow fever in shipping from New Orleans between the 1st and 5th inst.

Cincinnati:—From August 28th to afternoon of September 4th, 3 new cases of yellow fever and 2 deaths occurred among refugees.

Bay St. Louis, Miss .: - One refugee arrived from New Orleans

August 26th with yellow fever and was sent back to New Orleans the next day. No other cases,

Mobile:—City healthy. No yellow fever since the one death

which occurred August 31st.

Key West:—2 cases of yellow fever and one death during the week ended yesterday noon.

Havana: -74 deaths from yellow fever and 7 from small-pox

during the week ended August 31st.

Matanzas, Cuba:—During the fortnight ended August 30th, there were no cases of yellow fever in the bay, and only a few cases on shore.

Sague la Grande, Cuba:—Since the 16th of August there were 2 deaths from yellow fever, but at the date of advices, August 28th, there were no cases in town or harbor.

Calcutta: 9 deaths from cholera and 6 from small-pox, week

ended July 6th.

Bombay: -41 deaths from cholera and six from small-pox,

week ended July 16th.

Madras:—6 deaths from cholera, week ended June 28th. No official reports could be obtained from Port Gibson, Miss., Greenville, Miss., and Brownsville, Tenn., where yellow fever is reported to exist.

Reports from other places indicate good health, including Blount Spring, Ala., and Ceder Keys, Fla., both erroneously reported, through the press, as having cases of yellow fever.

## No. 10, September 14th, 1878.

Memphis:—During the week ended 6 o'clock, September 12th, there were 687 deaths from yellow fever. It is impossible for the Memphis authorities to ascertain the number of cases.

Brownsville, Tenn.:—The first case of probable yellow fever occurred on the 29th of August, resulting in death September 2nd, since which time there have been 9 deaths from yellow fever. There were 30 cases under treatment last evening. At least two-thirds of the population fled the city between the 1st and 4th inst.

Holly Springs:—116 new cases of yellow fever and 42 deaths occurred during the week ended yesterday evening, making in all 216 cases and 67 deaths. All of the resident physicians

are sick.

Canton, Miss.:—150 new cases of yellow fever and 20 deaths for the week ended yesterday evening. First case August 1st.

Total cases 340, total deaths 50.

Port Gibson, Miss.:—Dr. Wharton, of Mississippi State Health Board, reports about 500 cases of yellow fever and 94 deaths to yesterday noon, and "very few subjects left to take it."

Water Valley, Miss.: - One citizen taken with yellow fever

from September 1st and died on the 7th. No other cases to yesterday evening since the refugee cases reported in August.

Ocean Springs. Miss.:—16 cases of yellow fever and 4 deaths occurred during the week ended yesterday evening, making 34 cases and 9 deaths in all since commencement, August 30th.

Pass Christian. Miss.: - From August 29th to September 9th

there were 15 cases of yellow fever and one death.

Bay St. Louis, Miss.:—6 cases of yellow fever developed in Bay St. Louis last week. 2 deaths. No new cases yesterday.

Pascagoula. Miss.:—One of the cases, previously reported,

since died. No new cases.

New Orleans:—During the week ended yesterday noon there were 1528 cases of yellow fever and 530 deaths, making in all 6137 cases and 1925 deaths. In the last twenty-four hours, to Friday noon, there were 228 cases and 58 deaths.

Plaquemine, La .: 175 cases of yellow fever and 37 deaths had

occurred up to September 8th.

Morgan City, La.:—There have been 25 cases of yellow fever and 8 deaths, of which 3 cases and 2 deaths occurred during past week.

Port Ends, La:—No cases and no deaths from yellow fever during last week. There were 21 cases and 2 deaths from August 16th to 31st.—period not previously reported, making in all 67 cases and 8 deaths.

Mobile :- One death from yellow fever occurred on the 9th

inst. No other cases to last evening. City healthy.

St. Louis:—During the week there were 2 cases, of local origin, said by some to be yellow fever, disputed by others; one died, the other was sent to Quarantine Hospital where 9

refugees died of yellow fever during the same period.

Cairo:—The editor of the Cairo Bulletin died of yellow fever on the 12th inst. One employé of the Bulletin office died yesterday. No other cases. On the 4th inst. 4 members of a family, residing two miles from Cairo upon the bank of the Mississippi, were suddenly stricken with yellow fever. On the 10th the remaining 2 members of the family were attacked, one died. The children found an abandoned skiff in the river and removed it to the house for repair. Three or four days afterward all who were around the boat were stricken with tever in one day. The quarantine physician dissents from the diagnosis of the attending and consulting physicians.

Hickman, Ky .: - The telegraph operator reported dead. No

other information obtained.

Louisville:—There were 19 new cases of yellow fever and 7 deaths for the week ended yesterday evening—all refugees.

Cincinnati:—From September 4th to yesterday evening there were 7 cases of yellow fever and 4 deaths. All of whom are recently from infected places South.

Gallipolis, Ohio:—There have been 25 cases of yellow fever and 9 deaths resulting from communication with the steamboat

"John A. Porter" and her barges which anchored near

Gallipolis.

The vessel and her infected barges ascended the Mississippi and Ohio rivers from New Orleans to Gallipolis with effect much like a firebrand among explosives. The local health authorities could only prevent her landing, and the law forbids this office interfering in such cases.

Key West: One case of yellow fever and one death during

the past week.

Kingston, Jamaica, Sept. 3d:—A few cases of yellow fever have occured at Port Royal, six miles from Kingston, one proved fatal.

The S. S. "Etna" from Hayti arrived at Kingston on the 1st inst. with the purser sick of yellow fever contracted in

Hayti.

Calcutta:—There were 11 deaths from cholera and 20 from

small-pox during the week ended July 13th.

Bombay:—22 deaths from cholera and 9 from small-pox, week ended July 23d.

Havara: -51 deaths from yellow fever and 5 from small-pox

during the week ended September 7th.

During the week ended August 24th there were 24 deaths from searlet fever in *Birmingham*, England, and the same number in *Liverpool* and *London*. In *Hamburg* there were 31 deaths from typhus fever, 11 from enteric fever and 20 from diphtheria in the same week.

In Alexandria, Egypt, the annual rate of mortality per 1000 of the population based on the weekly mortality for the week

ended August 8th was 58.8.

No official reports could be obtained from Vicksburg, Grenada, Baton Rouge, Bolton, etc.

Reports from other places indicate good health.

# No. 11. September 21, 1878.

Vicksburg:—Epidemic abating. There were 121 deaths during the week ended yesterday evening, a decrease of 113 deaths from the week before. 11 deaths occurred in the last 24 hours. Total deaths to date 721.

New Orleans:—During the week ended yesterday noon there were 1401 cases of yellow fever and 445 deaths, a decrease of 172 cases and 85 deaths as compared with previous week. In the last twenty-four hours reported there were 165 cases and 69 deaths. Total cases 7538, deaths 2368.

Baton Rouge, La.:—The first case of yellow fever reported to the Board of Health occurred on the 14th of August. A previous case, not reported to the Board, but thought to have been yellow fever, occurred August 10th. First death August 18th. To 9 A. M. yesterday there had been 672 cases and 39 deaths.

Morgan City, La.:—During the week ended yesterday evening there were 41 cases of yellow fever and 10 deaths, making in all 66 cases and 18 deaths.

Mobile, Ala .: 4 cases of yellow fever and 2 deaths occurred

during the past week, making in all 6 cases and 4 deaths.

Grenada, Miss.:—For the week ended yesterday evening there were 20 new cases and 37 deaths. Total deaths to date 271. No decrease in virulence of the fever. Dr. Henry Stone of Natchez is the only physician on duty.

Pass Christian, Miss.: - From September 9th to 20th, A. M., there were 6 new cases of yellow fever and no deaths. Total

cases, 21, deaths, 1.

Biloxi, Miss .: 20 cases of yellow fever and 7 deaths have

occurred to 20th September.

Ocean Springs, Miss.:—There were 14 cases of yellow fever and 3 deaths for the week ended yesterday evening. Total

cases, 51, deaths 12.

Memphis:—620 deaths from yellow fever occurred during the week ended Thursday evening Sept. 19th, making a total of 2131 deaths. The number of cases not known to Memphis Board of Health.

Brownsville, Tenn:—During the week ended yesterday evening there were 100 new cases of yellow fever and 15 deaths, making in all 130 cases and 44 deaths. The deaths for the week ended Sept. 14th, were 29 instead of 9 as stated in last report.

Hickman, Ky:—42 deaths from yellow fever occurred during the week ended yesterday evening. 16 new cases and 3 deaths during the last twenty four hours. Total cases to date 205.

deaths 74.

St. Louis:—During the past week there were 6 deaths from yellow fever, 4 of which were at quarantine. All refugees.

Louisville —18 cases of yellow fever and 8 deaths for the weed ended yesterday evening. Total cases 77, total deaths 26, all refugees.

Cincinnati:—5 cases of yellow fever and 1 death during the week ended yesterday evening. All refugees. Total cases 30,

deaths 13.

Gallipolis, Ohio.—Since the last report, to Sept. 18th, there was one new case of yellow fever and 3 deaths, making in all 28 cases and 12 deaths, all traceable to the infected steamer John A. Porter.

Indianopolis, Ind: -- One refugee died of yellow fever Sept. 17th.

Bay St. Louis, Miss:—15 new cases of yellow fever occurred during last week. Deaths not reported.

Cairo, Ills:—3 new cases yellow fever since last report. 2 died in Cairo and one went to Mound City, eight miles from Cairo, and died there.

Havana :- 50 deaths from yellow fever and 4 from small-pox during the week ended Sept. 14th.

Key West, Fla: -6 cases of yellow fever and 5 deaths during

past week.

Morocco, Africa:—Asiatic cholera has appeared in the cities of Mequinez and Fez, Morocco, causing the death of from 20 to 30 victims daily in the former city, which is about 170 miles Information of the disease came to Felix A. from Tanzier, Mathews, Consul of the United States at Tanzier; and in his capacity as President of the Board of Health of Morocco, he dispatched Dr. Tadeo Martinez, formerly of the Spanish Navy, to visit Fez and Mequinez. Dr. Martinez left Tanzier, Aug. 7th, with an escort of 200 Moorish troops, and after forcing his way through the lines of the revolutionists besieging Mequinez, entered that city on the 14th of August, where he found the disease to possess all the well-known characteristics of Asiatic cholera. From a report obtained from the custodian of the Jewish Cemetery, the Number of deaths of the Israelites since the first appearance of the disease exceeded 400. The disease was reported to have spread to Sherarda, a province bordering on the city of Mequinez. Dr. Martinez attributes the disease to the unsanitary condition of the city, but Consul Mathews suggests the possibility of the germs of disease having been brought by the thousands of pilgrims returning from Mecca. The unsanitary condition of the crowded cities of Fez and Mequinez is described as "entire want of precautionary measures of cleanliness within and without the houses. In some quarters, offals, filth, dead animals, and dirt of all kinds and origin are allowed to accumulate from year to year until they reach the level of the windows, creating inexpressibly repugnant exhalations of the most deadly and life-destroying miasm." The port of Tangier and its environs are free from any infectious disease.

Calcutta:—9 deaths from cholera, week ended July 20th. Bombay:—30 deaths from cholera, week ended July 30th.

JNO. M. WOODWORTH,

Surgeon General, U. S. Marine Hospital Service,

Office Surgeon General, U. S. M. H. S. Washington, D. C., August 15th, 1878

To Medical Officers of the Marine Hospital Service:

As several of the Medical officers of this service have been called upon by the civil authorities to take charge of vessels supposed to be infected with yellow fever, and to assume other responsibilities under the National Quarantine Act, it is proper to state that the quarantine law was enacted too late for congress to make an appropriation for carrying it into effect this year, though by personal exertion everything is being done which is

possible without the expenditure of money. The strictly executive duties which the act imposes upon the Surgeon-General of the Marine-Hospital Service have reference to external quarantine—to vessels coming to ports of the United States from without.

The act expressly provides that this office shall not interfere with or impair any sanitary or quarantine laws or regulations of the States or cities; which may be interpreted to refer especially to land quarantines and the health rules of cities. Medical officers of this Service are, however, required to assist the civil health authorities in all proper and practicable ways when requested to do so, and in view of this fact, and the prevalence of yellow fever in several of the inland cities of the United States, it seems desirable that the Surgeon-General should make known his individual views in reference to the disease and its prevention—these views not to be regarded as

having official force. The weight of scientific evidence seems to warrant the conclusion that yellow fever is produced by an invisible poison capable of self-multiplication outside of the human organism which it enters through the air passages: The poison germ or nausea is a product of the tropics. In this country, yellow fever has prevailed in most of the Gulf and Atlantic cities, and in many of the towns along the Mississippi River. In some instances it has been carried inland with the people fleeing from infected localities, but it has never shown a disposition to spread epidemically at points remote from the continuous water-roads of commerce, or to lodge in high salubrious places. The cities of the Great Lakes have always been free from the disease. Yellow fever cannot be said to be endemic in the United States from the fact that in some years it does not appear, though the imported germ undoubtedly survives the mild winters. It appears to have about as much resistance of cold as the banana plant, when the banana stalk is killed down by the frost; the yellow fever does not recur until again imported. The germ is transmissible. It is capable of being transported in the clothing or personal effects of passengers and sailors, but its spread from one city to another is chiefly accomplished by vessels—their damp, filthy holds and bilge water being its favorite lurking places.

Confinement, moisture and high temperature favor the multiplication or virulence of the poison. Where a wharf, or spot of ground or a house becomes infected, the poison at once commences to spread, creeping slowly in all possible directions, continually enlarging the area around the center of infection unless checked by disinfection, as has undoubtedly been done by the use of carbolic acid in New Orleans in former outbreaks. Yellow fever is not communicated from the sick to the well; the sick and well being dangerous only as possible carriers of the poison-germ or miasm. In support of this assertion it may

be stated that at quarantine hospital where the effects of yellow fever patients are burned, or otherwise thoroughly disinfected before the admission of the patients, the attendants do not contract the disease. This has been demonstrated many times. All well persons whose effects have been disinfected may be considered harmless after six or seven days have elapsed from the time of leaving an infected district or vessel, as the period of incubation of the disease lasts from two to six days. This simplifies the question of quarantine—absolute land-quarantines being deemed impracticable—and indicates the direction of preventive measures to the vessel, cargo, or the locality, if the poison have found lodgement on shore.

A vessel may escape infection if kept clean and dry, and all parts capable of being closed are frequently subjected to the fumes of burning sulphur, and the men employed on board are compelled to bathe and change their flannels daily and not allowed to sleepon deck or in the hole of the vessel. There is an example of a ship trading between Havana and New York, upon which these precautions have been enforced for a period of twelve years, and not a single case of yellow fever has occurred on board. Though not sufficiently demonstrated to state as a fact, still there seems good reason to believe that much may be accomplished by individual prophylaxis:—by the use internally of small doses of sulphate of quinine at regular intervals, and of tincture of iron and chlorate of potasia. As the poison enters the system through the air passages, it has been suggested that the nasal passages be bathed frequently with a solution containing quinine, to be applied by means of a nasal spray.

JOHN M. WOODWORTH,
Surgeon-General,
U. S. Marine-Hospital Service.

# Proceedings of the Medical Society of South Carolina.

At the regular monthly meeting of the Medical Society of South Carolina, held Sept. 2nd, 1878, the following resolutions, offered by Dr. R. A. Kinloch, were adopted and ordered to be published.

Resolved—That we witness with surprise and mortification, the attempt on the part of the citizens of many sections of our eountry, to institute a futile and oppressive system of land quarantine against yellow fever.

2nd. That this system, originating, as we believe, with a

panic-stricken people, and supported by the teachings of theorists, is inconsistent with the most generally received views as to the origin and propagation of the disease in question, and opposed to the humanity of a civilized age.

3rd. That we respectfully urge upon the profession throughout the length and breadth of our land, the necessity of opposing this false and inhuman doctrine by every means in their power, even, if necessary, by an appeal for legislative enactments on the subject.

4th. That we respectfully, but most urgently, advise our fellow-citizens of those localities, where the invasion of the disease may seem imminent, to expend their efforts rather in removal of their causes, which, in accordance with the well-established facts of mordern science, are known to be potent in localizing epidemic disease.

5th. That we extend our most heartfelt sympathy to our fellow-citizens who are now feeling tne dire effects of the illegal and inhuman enactments referred to, and pledge ourselves to do what we can in our own State, to aid in their present deliverance and to provide for their future security.

A true copy:

W. H. BAILEY, M. D.,

Secretary Med. Soc., S. C.

CHARLESTON, April 15th, 1878.

To the Editor of the New Orleans Medical Journal.

Gentlemen—In accordance with instructions from the Medical Society of South Carolina, the foregoing resolutions are forwarded to you, with the request that they be inserted in the next number of your valuable journal. Similar copies have been furnished to other prominent Medical Journals of the South and West.

I am, very respectfully, your obedient servant,

W. H. BAILEY, M. D., Sec. Med. Soc., S. C.

### ORIGINAL.

[Too late for insertion in its proper place.]

# Successful Use of Ergot in a case of Black Vomit. By S. S. HERRICK, M. D.

Miss D., 22 years old, a native of Canton, Miss., had yellow fever at Mississippi City in 1867. October 2, 1878, she was seized with fever at 11, A. M., while temporarily residing at the same place. By the following day there remained no doubt that this attack also was yellow fever. On the morning of Oct. 4th she had a copious vomiting of liquid matter colored yellow with bile. About 4, P. M., there was another large ejection of yellowish liquid containing brown specks. A flyblister was then applied to the epigastrium, but nausea continued, with vomiting of dark brown matter. By this time she had become very restless, with sighing respiration.

At 9:30, P. M., October 4th, I determined to try the effect of ergot as an haemostatic, and accordingly administered 15 minims of Squibb's fluid extract hypodermically. Returning at 1, A. M., I found that black vomit, to a moderate extent, had recurred several times since the previous visit, The temperature had then fallen to 100\frac{3}{4}, and the pulse was weakening. Twenty minims of Squibb's ergot were injected into the gluteal muscles, and whisky toddy was given in small quantities at short intervals. From this time there was no recurrence of black vomit, but the same dose of ergot was repeated at 7:40, A. M., and 12:45, P. M., and the whisky toddy was continued. By this time the pulse at the wrist had become so faint as to be scarcely perceptible, and I felt apprehensive that the ergot might have been pushed too far. The respiration was sighing in a marked degree throughout October 5th, and she remarked that ice and drinks had a sweetish taste.

Nothing further of interest remains in the history of this case, as at the present writting (October 9th) convalesence is fairly progressing. It has been an instructive one to me, and is related in the hope that others may undertake to test the remedy and determine its value.

#### EDITORIAL:

We are forced to apologize to our patrons for a failure in the performance of a duty of great importance, it may be, in either one of the last two issues of our Journal. It was our intention to answer the numerous private letters received, asking information in respect to the treatment of Yellow Fever, by a general letter of reply published in the Journal.

Those of our readers who, like ourselves, have felt the pressure and fearful responsibility which a great epidemic imposes upon medical practitioners, can well understand how a physician, ever feeling that his most sacred duties are to his patients, has not a moment to spare to any other consideration.

It is again true that two of our editorial corps have been obliged to leave home in pursuance of professional duties, and one of these has been personally afflicted by the loss of a promising and beautiful son.

Amid these circumstances, the printer of the Journal has served both as editor and printer.

# BOOKS AND PAMPHLETS RECEIVED.

- Fourth Regular Announcement of the Nashville Medical College, Session of 1878-'79.
- Boston University School of Medicine, Sixth Annual Announcement and Catalogue, June, 1878.
- Annual Catalogue of Allen Academy, an English, Classical and Polytechnic School, Chicago, Ill., June, 1878.
- The Detroit Medical College, Annoucement and Catalogue. June, 1878-779. Detroit, Mich.
- Transactions of the Medical Association of Georgia—Twentyninth Annual Session—Atlania, Ga.
- Pharmacopée Universelle. Par M. le Prof. Gille, de Bruxelles, et M. H. P. Madsen, Vice President de la Societé Pharmaceutique de Copenhague—Uniformité Internationale en Médecine, Par M. le Dr. Seguin, de New York.

- A Review of the Past and Present Treatment of Disease in the Hip, Knee, and Ankle Joints, with their deformities. By Hugh Owen Thomas, M. D., Liverpool, England.
- Battey's Operation: Three fatal cases, with some remarks upon the indications. The operation. By George J. Engleman, M. D., of St. Louis, Mo. Reprint from the American Journal of Obstricts and Diseases of Woman and Children. Vol. XI, July, 1878.
- A Conspectus of the Different Forms of Phthisis—Intended as an aid to Differential Diagnosis. By Roswell Park, A. M.,
   M. D. Demonstrator of Anatomy, Woman's Medical College, etc., Chicago, Ills. Reprint from the Chicago Medical Journal and Examiner, September, 1878.
- The American Journal of Microscopy and Popular Science, New York City. Edited by Romyn Hitchcock, M. D.
- The American Medical College Association—Second annual meeting. Held at Buffalo, New York, June, 1878.
- The American Medical Review and Index. Edited by James J. Hale, M. D. Anna, Ills.
- Sound and the Telephone. By Clarance J. Blake, M. D., Boston, Mass. Read before the British Society of Telegraph Engineers—London.
- Remoral of Naso—Pharyngeal Palypsus, by temporary depression of both upper jaws. By L. McLane Tiffany, M. D., Professor Operative Surgery, University of Maryland. Reprint from the Transactions of the Medical and Chirurgical Faculty of Maryland. April, 1878.
- On Sarcoma of the Ovaries. By Washington L. Atlee, M. D., Philadelphia Pa. Reprint from Volume II, Gynecalogical Transaction, 1878.
- The Treatment of Fibroid Tumors of the Uterus. By Washington L. Attee, M. D., of Philadelphia. Extracts from the transactions of the International Medical Congress, September, 1876.
- A New Rotating Urethrotome. By John A. Pritchett, M. D., Hayneville, Ala. Reprint from the New York Medical Journal.

## METEOROLOGICAL REPORT FOR AUGUST, 1878.

-	TEMPERATURE.			Je J	ty	σå
Day of Month.	Maximum.	Minimum.	Range.	Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches
1	98	79	10	30.042	74.3	.05
$\frac{1}{2}$	91	78	13	29.998	69.0	.01
2 3	89	76	13	29.906	73.0	1.85
.1	83	76	7	29.899	79.3	.09
5	88	75	13	29.879	74.0	.01
$\begin{bmatrix} 5 \\ 6 \\ 7 \end{bmatrix}$	89	75	14	29.925	72.3	.00
7	91.	77	14	29.949	75.3	.00
8	92	77	15	29.936	69.0	.00
9	92	78	14	29.936	71.7	.00
10	89	78	11	29.944	71.0	.00
11	90	78	22	29.976	72.0	.25
12	89	78	11	29.954	73.3	.02
13	90	77	13	29.911	76.3	.21
14	89	77	12	29.919	75.0	.05
15	91	77	14	29.947	71.0	.00
16	84	77	7	30.014	77.7	.00
17	88	77	11	30.038	74.7	.01
18	91	79	12	30.074	72.3	.00
19	91	77	14	30.034	66.7	.00
20	92	78	14	29.958	68.7	.00
21	93	77	16	29.932	70.7	.00
22	94	78	16	29.922	65.3	.00
23	91	78	13	29.975	68.3	.00
24	91	78	13	30.013	65.3	.00
25	90	77 76	11	29.936 29.889	63.3 71.0	.00
26	89		13	29.889	66.6	.01
27	89 89	73 76	16 13	29.957	64.3	.01
28 29	86	74	13	29.914	80.0	2.05
	86	74	12	29.901	77.0	.14
30 31	88	7.1	14	30.025	73.0	.00
91	00	(-±	1.1	30.020	10.0	.00
Mean	89,48	76.8	13	29.954	72.3	Total: 4.77

## MORTALITY IN NEW ORLEANS FROM AUGUST 25 TO SEPTEMBER, 1878, INCLUSIVE.

Week Ending.		Yellow Fever.	Malarial Fever.	Consump-	Small- pox.	Pneu- monia.	Total Mortality.
September 1		411	55	22	0	5	596
66	8	548	74	23	0	11	763
66	15	501	60	19	0	3	703
66	22.	408	41	24	0	6	603
66	29	326	55	19	0	6	490
Totals		2194	285	107	0	31	3155

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

NOVEMBER, 1878.

# ORIGINAL COMMUNICATIONS.

#### COMBUSTION AND ASSIMILATION.

BY JOHN B. ELLIOTT, M. D.,

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The relation in the animal economy of tissue construction to combustion presents to the student of medicine one of the most interesting and important of problems. The incessant progress of these opposed processes is the necessary condition of life; and the decision of the question as to which is the primary step in nutrition involves a physiological truth that must control our views of pathological conditions, and influence more or less remotely our application of remedies. In the following pages I desire to approach this question from facts observed in the action of certain classes of medicines upon the processes of nutrition; and following a consideration of these facts to inquire if they afford any assistance in the solution of the problem.

A large number of the articles of the Materia Medica have been grouped by the French Therapeutist, M. Rabuteau, into two classes, characterized as follows: 1st. Those that elevate temperature and increase the excretion of urea and carbon dioxide; while at the same time they promote tissue construction; and

2d. Those that tend to depress temperature and diminish the excretion of urea and carbon dioxide; while at the same time they diminish the construction of tissue.

The effects of each of these classes, as shown in the above statement, are easily divisible into two distinct groups,—groups that contain diametrically opposed processes. Thus in the first class the increase of temperature, carbon dioxide, and urea, by indicating greater combustion in the body, seem to be directly opposed to the increased construction of tissue; while in the second class the depression of temperature and the lessened excretion of urea and carbon dioxide, seem to be facts that should lead us to expect any other result than loss of weight and diminution of tissue formation.

In the first of the above mentioned classes M. Rabuteau places, among others, the ferruginous compounds, the hypophosphites and chlorides, all of them agents proved by clinical experience to produce the two groups of effects assigned to class first; while in the second class are placed such compounds as the alkaline carbonates, vegetable acids and iodides. Upon the relation existing between the apparently opposed groups of effects, especially in class first, I desire to dwell, and to ascertain if possible which group represents the initial action of the remedies above mentioned. The problem presents itself simply as follows: When iron is administered, is the increased combustion observed a primary or secondary effect? Is combustion increased because tissue building has increased; or is tissue construction the sequent of combustion? Which is first, physiologically, combustion or assimilation?

When we turn to clinical experience for evidence in this matter we learn that increase of combustion appears, chronologically to be first. An increase of temperature and of excretion occurs often within a few hours of the first dose of a ferruginous compound; while it is a well established fact that we often wait many days before any visible improvement in tissue formation occurs, or that any increase of red corpuscles

is revealed by the microscope. To assume, however, this apparent priority of combustion as a fact, although based upon the most careful clinical observation, is to assume the point in question.

When we turn in other directions for instruction upon this point we find that the whole question involved has been discussed by Dr. Jos. Le Conte in his paper on the "CORRELA-TION OF VITAL WITH CHEMICAL AND PHYSICAL FORCES." One of the principles sought to be established by Dr. Le Conte, is "that in all cases vital force is produced by decomposition;" that all growth and repair in all forms of organic existence depend upon preceding disintegration. Combustion is held to precede assimilation not merely as a chronological fact but as a dynamical necessity. The building force by which tissue construction is carried on is born, so to speak, of the transformed forces emerging in combustion. As I believe that this principle accounts completely for the effects resulting from the medicines under consideration, and as clearness of statement is necessary for the full understanding of its application, some elementary elaboration of the principle of force-transformation must be pardoned.

The forces recognized by physics and chemistry, heat, light, electricity, chemical affinity, etc., are known to be capable of mutual quantitative transformation. A given amount of heat may disappear but we know that it must reappear under some other form or forms, as light, or electricity, or chemical affinity, or in some other possible form not here enumerated. What new form it may assume in any case we cannot without experience foretell, but we may always assert that the quantity or value of the new forms will be difinitely limited by the amount of heat which has disappeared. Let us rise by gradual steps to these transformations in the animal body.

One of the simplest cases of transformation is the burning of an alcohol flame. Here we have the carbon, hydrogen and oxygen, composing the molecule of alcohol, torn apart by the oxygen of the air under the influence of a high temperature. In the process of burning both the alcohol and the combining oxygen disappear, and reappear as the simple compounds,

water and carbon dioxide. But besides these material transformations, there are also taking place transformations of force. The chemical energy of the free oxygen of the atmosphere disappears and we find it reappearing under the form of light and heat in the flame. In this case there has been a descent in form from the alcohol molecule to the simpler molecules of water and carbon dioxide; while there has also been a descent in force from the chemical energy of the oxygen to the light and heat of the flame. As the amount of water and carbon dioxide formed will depend upon the amount of alcohol burned, so will the amount of light and heat emitted, depend upon the amount of chemical energy which has disappeared.

A transformation somewhat more complex is seen in the changes taking place in a cell of the galvanic battery. Here we put a strip of zinc, and a strip of platinum into a vessel of diluted sulphuric acid, and connect the outer extremities of these strips by means of a copper wire. Changes at once begin. The zinc drives out the hydrogen of the acid and takes its place. Sulphate of zinc is formed; hydrogen is set free; heat is generated, and an electric current passes along the connecting wire. The chemical energy of the zinc disappears, and we recognize it under three transformations. First, part of that energy has been lost in restoring chemical energy to the liberated hydrogen which it is displacing. Secondly, part of it reappears as heat, and part of it as the electrical current traversing the wire. The sum of the energy represented by these three forms will always be equal to the lost chemical energy of the zinc. The quantity of electricity or of heat may vary, but if one increases the other must diminish. Any increase of the one must be at the expense of the other, for their sum, together with the energy of the liberated hydrogen can never exceed the lost energy of the zinc. Transformations in these two examples are thus strictly quantitative, following from the indestructibility of force.

Ascending from these simple cases of transformations of force in organic changes we pass next to the transformations occurring in inorganic nature. The leaf of the tree in the sunlight decomposes carbon dioxide, setting free the oxygen and

assimilating the carbon. The sunlight is here the force, that under the influence of vegetable life begins the series of transformations. The first step is the separation of the carbon and the oxygen. To accomplish this separation, solar force is transformed into the chemical energy of the liberated carbon and oxygen. The oxygen discarded by the leaf is set free in the atmosphere to play an important part in the transformations occuring in the animal kingdom. The carbon with its restored chemical energy is retained in the leaf, and its chemical energy, probably as soon restored, is transformed again. Combining with a molecule of pabulum in the sap, its chemical energy again disappears, to reappear as heat, and, as Dr. Le Conte holds, "organizing force" which lifts the molecule of food into plant tissue. Solar force is here the initial energy, and passes through the phase of chemical energy ere it finally becomes "organizing force" of vegetable tissue. The important difference between this last series of transformations and the transformations occurring in the galvanic cell is, that while chemical energy in the galvanic cell was quantitatively transformed into heat and electricity, it is, in the case of the vegetable, quantitatively transformed into heat and "organizing force." As in the galvanic cell the quantity of heat and electricity bear an inverse ratio to each other, so likewise, from the indestructibility of force, must be the relation in the vegetable of the heat and organizing force. In the vegetable, the amount of heat being small, we must suppose that chemical force gives rise chiefly to organizing force. We must also bear in mind, that, as in the case of the zinc in the galvanic cell, the resulting forms of energy in the vegetable can never exceed the chemical energy of the carbon which disappears.

Going back now to the oxygen set free by the leaf we will suppose that it enters the blood of man, and omitting intermediate steps, comes there into contact with combustible matter. This combustible matter may be either retrograding tissue, or combustible hydro-carbons, or pabulum ready for tissue formation. Under the influence of animal life the chemical energy of the oxygen is at once transformed, into heat on the one hand, and into organizing force of animal

tissue on the other. By this latter pabulum is lifted into tissue. Here we reach the point for which we set out. Here combustion in the animal economy, interpreted in the light of Dr. LeCoute's theory, is seen to be the initial step, while heat and organizing force are the complementary modes of its transformation. The force utilized in tissue construction is here recognized as emerging in combustion; and we are forced to accept the fact that combustion is not merely an accidental, but the necessary, precursor of tissue formation, that molecular disintegration in the kingdoms of organic nature is absolutely indispendsible to molecular construction.

Interpreting the effects of the ferruginous compounds in the light of the foregoing theory, it would follow that the increased excretion of urea and carbon dioxide which follow closely upon the administration of these preparations, is the initial step in that train of changes which has for its final term the increase of tissue. These remedies directly or indirectly increase the transformations of chemical energy in the body,—as noticed in the first group of effects, and though this primary action lead to an increase of tissue formation,—as noticed in the second group of effects. The connecting link between the two groups being that both groups of effects have the same origin, namely, the transformation of chemical energy, on the one hand into heat, and on the other hand into tissue building force.

If this be a true interpretation of the sequence of events in nutrition, is it not then more proper to style remedies of this class: agents which influence nutrition by increasing combustion? Furthermore, examining our clinical evidence in the light of these supposed facts, would it not lead us to conclude that the apparently long chronological priority assigned to increased combustion in the effects of iron is fallacious; and teach us that while there is a true chronological priority, yet it is such a priority as exists between the union of oxygen with hydrogen, and the immediately resulting appearance of heat and light? From the transformations in the human body we are at once made aware of the rise of temperature; but the

almost coincident tissue formation must be continued for a long period before it can be appreciated.

Turning from this first class of remedies to the second class, whose effects have been grouped into the two apparently opposing groups of diminished temperature and excretion, as opposed to diminished tissue building, we find that the same principle that has been applied for the explanation of the groups of effects of the first class will account for the apparent anomaly existing in the grouped effects of the second class. For, if tissue construction varies directly as molecular disintegration we must, with a diminution of the latter have also a diminution of the former.

So far we have been examining the question proposed only in the light of the actions of certain remedies; and we have found, that a certain theory being assumed, these actions have been found to be not only not physiologically inconsistent, but to be actually physiological correlatives. If, however, the important principle formulated by Prof. LeConte be a physiological truth, we can rise by its aid to the interpretation of phenomena more profoundly important than the mere action of medicines. The same law and sequence of force—transformations that has served to explain the effects of such a medicine as iron, will with no less facility make plain the group of phenomena which constitute the pathological condition known as fever. Some repetition of facts already stated will I trust be pardoned in this connection, as my desire is only to be clearly understood.

In the transformations taking place in the animal system it has been indicated that the chemical energy which disappears is always transformed in two directions; one portion reappearing as heat while the other portion reappears as organizing force of tissue construction. In the healthy adult the ratio of the heat produced to the organizing force produced is, within small limits constant; just enough heat is generated to maintain the normal temperature, while just enough organizing force is generated to maintain the normal tissues, of the body. While the nervous centres are in normal working order, this regular distribution of transformed chemical energy goes

on without material variation and according to a regular quantitative law: that is to say, a fixed quantity of chemical energy always transforms to heat, while the remainder transforms to organizing force. If, however, the healthy condition is disturbed; if the transformation of the chemical energy into organizing force should from any cause cease: then, knowing the quantitative relation between the organizing force and the heat we should expect that the former being diminished the latter should be increased. The chemical energy continues to disappear, but now as none of it goes into organizing force all of it must go into heat. In fever this occurs. The normal balance observed in the production of heat and of organizing force is interfered with. Though the effect of disease upon the nervous centres, tissue formation in great measures ceases and excessive heat production is the result. The extra heat is produced because tissue formation has ceased, chemical energy being no longer transformed normally into organizing force is nearly all transformed into heat: and as the process of assimilation is practically arrested while combustion still goes on we have emaciation. Fever, then, might be defined as incrersed heat production resulting from diminution in tissue formation.

The relation of tissue formation to heat generation may be rudely illustrated by the following: "A healthy man with a temperature of 98.5° F., by running half a mile will raise his temperature to 101° F. A patient with a slight fever may have the same temperature, 101° F., but the cases are radically different. In the healthy man whose temperature has been raised by exercise, we have tissue formation normal, while tissue destruction is abnormal,—excessive. In the fever patient we have both processes abnormal, tissue destruction excessive, and tissue formation deficient. In the healthy man the transformation of chemical energy has been too rapid for the normal demands of tissue formation, so that the major part is changed into heat; while in the fever patient the transformation of chemical energy into organizing force has practically ceased, so that the normal portion of the chemical energy destined for that force is charged also into heat.

In the first case there has been no interference with the nervous influence controlling assimilation. In the second case the influence controlling assimilation is in abeyance. The first case regulates itself in a few minutes by a radiation of the surplus heat, because normal tissue formation goes on. The second case cannot be corrected until the power controlling assimilation re-asserts itself. The first is not, the second is, a pathological condition. The increased tissue destruction above the normal, observed in fever, we must believe arises from the fact that the same controlling influence that governs assimilation governs also disassimilation, and the disturbance of this control while diminishing assimilation gives in a measure the reins to disassimilation. The uncertainty overhanging this portion of the phenomena in fever is not, however, irreconcilable with the application of the general principle herein illustrated.

The process of organic existence consists in continuous destruction and repair. Our daily life teaches us this; and the repair we are accustomed to regard as simply necessitated by the destruction. As the carpenter, by the inroads of decay is constantly compelled to repair his house, so we loosely think of tissue formation as simply the necessitated carpenter's work of repair for the tissue destroyed. If, however, the present theory be sound we must rise a step above this conception. We must see in the decay not only the necessity for repair, but must also see emerging from it the energy by which repair is to be accomplished. In the light of this theory we obtain profounder insight into the actions of our most familiar remedies, and can apprehend more clearly those disturbances in the processes of nutrition which are the constant accompaniments of pathological conditions. If chemical energy is the raw material of organizing force; and if organizing force and heat production are the complementary resultants of its ceaseless transformations in the human body, then the practical importance of the consideration submitted will be sufficient excuse for the brief space devoted to them,



# A Chapter on Necrology.

BY M. L. KNAPP, M. D.,

Of Cadereyta, Nuevo Leon, Mexico.

The recent demolition of the old "campo santo" (graveyard), of Cadereyta, situated within the built-up limits of the city, for ages the receptacle of the dead of this city and judicial district, has afforded me an opportunity for examining human remains, long since sepulchred, some notice of which examinations of said remains may interest readers. I had oftentimes felt a great curiosity to know from observation how the remains of human beings, long buried, appear, and whether or not any of the solids, other than the bones, remained; and it is believed others possess a like curiosity that will be gratified by this narration, if, indeed, it may not prove scientifically useful in the records of necrology.

The different modes of sepulchre in use in different countries, difference of climate, etc., will, of course, cause a great difference in the state of human remains long since deposited; as, for example, deep inhumation in the earth in graves, or vaults above ground. In the city of Philadelphia, where a parish church may not have had for cemetery use more than a quarter of an acre of ground in the rear of the church, I have witnessed the dead interred eighteen feet deep, in order to give room for two more superficial tiers of occupants, at the respectful distance of six feet apart, and leaving the uppermost tier six feet below the surface. In Chicago, where the dead were, in early times, interred in a graveyard located in the sanddunes, on the shore of the lake, I have seen the coffins laid bare by the bleak winds, and parts of skeletons visible through the broken coffins; broken and robbed, as supposed, for kindling wood, the locality being contiguous to the "Dutch Settlement." as it was called. In New Orleans, and vicinity, in early days, bodies were buried in graves inevitably half filled with water, the coffins being pressed down and so held till the loose dirt was thrown in. So I heard a clergyman of Philadelphia discourse, many years since, who had spen, some time in the South as a missionary.

It is not long since a newspaper paragraph met my eye,

stating that a petrified human body had been discovered, but in what locality and under what circumstances is not remembered. In Sir Charles Lyell's work, "Antiquity of Man Proved by Geology," ch. xv., is notice of fossil human bones having been found in the valley of the Rhine, imbedded in the Alpine diluvium, many yards below the surface, in so good a state or preservation that Cuvier supposed them taken from a modern cemetery; proving that man is of greater antiquity than is generally supposed. The oldest organic specimen of man yet discovered (so said to be), is part of a skull found in California, one hundred and eighty feet below the surface of Table Mountain, and preserved in the archives of the Boston Society of Natural History; said to be coeval with the Drift Age. See Amer. Jour. Science, sec. Ser., No. 138, p. 407.

The following notice of the state of the remains of Roger Williams, is worthy of place here:

"For the purpose of erecting a suitable monument in memory of Roger Williams, the founder of Rhode Island, his private burying ground was searched for the graves of himself and wife. It was found that everything had passed into oblivion, The shape of the coffins could only be traced by a black line of carbonaceous matter. The rusted hinges and nails, and a round wooden knot, alone remained in one grave, while a single lock of hair, in braid, was found in the other. Near the grave stood an apple tree. This had sent down two main roots into the very presence of the confined dead. The larger root, pushing its way to the precise spot where the skull of Roger Williams had lain, had made a turn as if passing around it, and followed the direction of the back-bone to the hips. Here it divided into two branches, sending one along each leg to the heels, where both turned up to the toes. One of these roots formed a slight crook at the knee, which made the whole bear a striking resemblance to the human form. There were the graves, but their occupants had disappeared; the bones even had vanished. There stood the thief-the guilty apple tree-caught in the very act of robbery. The spoliation was complete. The organic matter-the flesh, the bones of Roger Williams had passed into an apple tree. The elements had been absorbed by

the roots, transmuted into woody fibre, which could now be burned as fuel, or carved into ornaments; had bloomed into fragrant blossoms, which delighted the eye of the passer-by, and scattered the sweetest perfume of spring. More than that—had been converted into luscious fruit, which, from year to year, had been gathered and eaten. How pertinent, then, is the question, 'Who ate Roger Williams?' [Steele's Fourteen Weeks in Chemistry.]

The date of the demise and interment of Roger Williams not being stated, the exact length of time from interment to the examination cannot be given. He and others, on account of religious disagreement, were banished from the Boston Settlement, and went to Rhode Island and settled at Providence (name given to the place), in 1636. In 1644 Williams went to England and obtained a charter from the Parliament for the "Providence and Rhode Island Plantations." The date of the Boston newspaper from which the above curious scrap was cut, is April, 1869. Now, allowing Williams to have been 30 years old when he settled at Providence, and to have lived 30 years thereafter, that is, until 1666, his remains would have been interred, when the examination was made, a little less than two hundred years. Here, then, we have a record of the total disappearance of human remains as usually interred, even the osseous structure, in two hundred years. This is a fact of scientific interest, assuredly. The records of necrology are worth pursuing, therefore, and some further illustrations will be offered in this connection before detailing the examinations made in the Cadereyta graveyard.

#### "DISCOVERY OF A PRE-HISTORIC CORPSE.

"In digging up a peat bog in Holstein, not long since, a human body was discovered almost entirely preserved, and belonging to a period at least as remote as the beginning of the Christian era, if not earlier. \* \* \* The body was of the male sex and in a good state of preservation, although of a dark color, in consequence of saturation by the acids and tannin matter of the peat. \* \* \* The body has been thor-

oughly dried, and will be preserved in the Museum of Antiquities at Kiel." [Harper's Magazine, May, 1872.]

This human body seems to have been thus preserved by a natural embalmment derived from the balsamic nature of the peat bog.

#### "PRE-HISTORIC MAN IN AMERICA.

"Several years ago, Gen. James H. Carleton, U. S. A., visited the abandoned drift of the Hanover copper mine, on the side of a mountain ten miles northeast from Fort Bayard, Grant County, New Mexico, At the distance of twenty-five feet from the mouth, and where the earth overhead was, perhaps, equally thick, a portion of the dirt roof had fallen away, and revealed an object which, on examination, proved to be the cranial portion of an inverted human skull. With a bowieknife the general broke off a portion of the calvarium, the remainder being imbedded so firmly that he could not remove it. He was unable to determine whether the rest of the skeleton was there or not, but is satisfied as to the completeness of the cranium. In his visit he was accompanied by Gov. Robert B. Mitchell, and Hon. Charles P. Cleaver, both of whom were cognizant of the circumstances. The fragments of the skull obtained by him were presented to David L. Huntington, U.S. A., then stationed at Fort Bayard." [Harper's Magazine, December, 1872."

#### "DESTRUCTIBILITY OF HUMAN BONES.

"The Dutch Government in 1853 drained off the Haarlem Lake, on which there had been many shipwrecks and naval fights, and where thousands had found a watery grave. The canals and trenches dug to a considerable depth through the rescued land must have had an aggregate length of thousands of miles, and yet not a single human bone was exhumed from first to last. Some weapons and a few coins, and one or two wrecked vessels alone rewarded the antiquaries who watched the operations with the hope of a rich harvest."—[Harper's Magazine, November, 1871.] It is stated in the conclusion of this brief notice, that the Haarlem Lake was formed by an inundation toward the end of the 16th century. If so, all

vestige of human remains that had there found a watery grave, had disappeared in less than two centuries—in about a century and a half indeed; which is not surprising, as every animal structure would be softened into mould in that period of time, and deposited at the bottom, if not held in solution. All dead animal matter would rot in that time undoubtedly.

It appears that the herculean enterprise of draining the Znyder Zee and reclaiming for agricultural use the lands covered by it, is to be put in operation; and the notice of it is not inconsistent with the design of this historical paper.

"Active preparations are going on for the immediate com. mencement of the long projected work of draining the Zuyder Zee. A dam 40 kilometers (24 miles, 1,504 yards) long, and 50 metres broad at its base, is to be carried across the gulf, built up to a height of half a metre above the ordinary level of high tide. Upon this, pumping machines of 10,000 horse-power will be erected, capable of pumping up from the enclosed sea and discharging on the outside of the dam 6,500,000 cubic metres of water daily. Taking the average depth of the water at 43 metres, it is estimated that the work of pumping will be completed in about 16 years from the commencement. The total cost of reclamation is set down at 335,000,000 francs: but, huge as this sum is, the undertaking is looked upon as likely to prove a most remunerative speculation. The success of the scheme will add to the kingdom a new province 195,300 hectares of land (nearly 500,000 acres). Judging from previous experiences in connection with the Haarlem sea, it is reckoned that at least 176,000 hectares of the land thus won will be applicable to agricultural purposes, which, at an average value of 4,000 francs only per hectare, will richly repay the enterprise and treasure lavished on this gigantic undertaking." —The Farmer—a London paper copied into a Boston newspaper of July 14, 1877.

INSPECTION OF HUMAN REMAINS IN THE CADEREYTA CAMPO SANTO.

As observed in the opening of this chapter, I had often felt a curiosity to inspect human remains long sepulchred, and my curiosity has of late been unexpectedly gratified, having been summoned by the municipal authorities as one of a commission of three physicians to decide whether or not the public health would be endangered by opening and clearing the vaults of the "old campo santo," situated within the built-up limits of the city. This depository of the dead occupied one city block, and was enclosed by a high wall of stone masonry, a wall at least twelve feet high. The vaults were of stone masonry also, arranged along the walls, one tier above another, to the height of five or six tiers around the four sides of the enclosure, just room enough to shove the coffins in endwise, feet to the walls, the mouths of the vaults being closed with mason work.

I am not aware that any interments were made in the ground of the "old campo santo;" but in the new one both modes are in use. My examination, then, of human remains here described, is of those vaulted thus above ground, in this very hot climate, and it so happens that the three subjects examined were vaulted on the north side of the enclosure (it being the place of honor), the three subjects being three ecclesiastics; and their remains were therefore vaulted near the spacious portion occupying the centre of the north side of the enwith other distinguished closure, together individuals. functionaries or otherwise, of Cadereyta—the hottest place in the enclosure. Always obedient to the citations of the authorities, I was at "old campo santo" at 8 o'clock, A. M., on the day and at the hour appointed for the commission to meet. I found the gateway that had been sealed up by solid masonry some years before, to prevent any more bodies being vaulted there, opened full width, and a strong force with pickaxes and crow-bars breaking open the vaults, dragging out the coffins, breaking them open, and, after emptying them of their contents, pitching them into a common pile and making a bonfire of them; the rank weeds and grass of the enclosure on fire, burning, smoking and cracking like an Illinois prairie, forty years ago, or a Hades in the Valley of Jehoshaphat two thousand years ago; and although I was the only member of the commission who had arrived, the Alcalde bade me say at once, whether or not the public health of the city would be

endangered by this act of his. Seeing the matter was determined on and being executed, I said no, of course, and gave the thing face; telling the Alcalde to please reserve two or three coffins with the remains in them, so that I could inspect them at my leisure in the afternoon, and retired.

On my return in the afternoon, I found the ground neatly burnt over—the fires that are consuming the coffins are only kept agoing. There is a large pit dug, full twenty feet deep, and as the "bovedas" (vaults) are opened and the coffins drawn out and broken open, the remains are scraped into the great pit and the boxes pitched into the fires. And thus the work of clearing the "old campo santo" was continued for over a week.

## EXAMINATION OF THE REMAINS OF THE THREE PADRES.

The three Padres were vaulted, as before observed, on the north side of the enclosure, near the portico of reception, but the hottest place in the enclosure. They had been thus entombed respectively forty, twenty and ten years, the date of entombment being placed on the coffins.

# THE REMAINS OF PADRE MARTINEZ

were the first examined, forty years entombed. The three had been taken from the vaults before my arrival, and placed in the portico, but the coffin of this Padre was broken open in the act. and the remains, or bones, were collected into a heap and placed on the lid of one of the other coffins; and on the summit of the heap sat perched the old Padre's cranium, or about two-thirds of it, one side having been broken in, so that it was easy to look into what was once "the palace of the soul" of this pious old ecclesiastic. As I took hold of a projecting portion of the broken cranium, a corner of os occipitis, to lift it for examination, the corner broke off and I pulverized it in my fingers. The flat bones could be thus generally pulverized between the thumb and fingers, although this subject lived to nearly seventy years of age, and was as dense as it may probably be found. The ossa parietatia, the os frontis, os occipitis. the scapulæ, the sternum and portions of some of the long

bones could thus be crumbled. The bones of the face were entire. The styloid processes of the os sphenoides were very long and perfect, standing out from the base of the cranium like thorns, and were quite firm and resistant. The lower maxillary bone was perfect, as were the superior maxillary bones also. The ossa brachii were both broken. The ulna and radius of each forearm were perfect. The ossa innominata were perfect and entire—both femurs also. One tibia was broken and friable but both fibulæ were perfect, and so were both clavicles. The ribs were generally perfect in form, but very friable, crumbling under the pinch of the thumb and fingers. The carpal and metacarpal bones of the hands, and phalauges of the fingers were perfect, so far as found; and so were the tarsal and metatarsal bones of the feet, as far as found. The feel of the whole osseous structure was slightly unctuous or soapy. There was no vestige of cartilage, tendon, skin, or any other structure than the osseous. The temperature of the locality was not tested, but it is presumed to have been at least 150° Fah. during the middle portion of the day through the summer season of every one of the forty years the remains were there.

#### SOUL OR CHARACTER OF PADRE MARTINEZ.

If Dr. Franklin's view was the correct one, that the *soul* is the real individual of every person, and the physical body only the clothing, which seems philosophic and reasonable, it is proper, before closing this sketch, to take a brief view of the real man, whose remains or cast-off clothes we have examined. The *soul* was, in due time, called for by the God who stationed it here awhile, and clothed it and appointed it to its destined work to be done on earth. And if the view be correct also, that the future life is shaped by the deeds done here in the body, which is the general idea, and which I shall not attempt to question, for it incites to virtue, then it is useful to speak of the soul, the real Padre Martinez, as an exemplar.

From all the information I have been able to obtain, Padre Martinez was a most exemplary priest, rising before the dawn of day, going to the church and saying his mass daily, as a uniform rule through a long life. Reserved and dignified in

his deportment, but kind to all, and very charitable to the poor, he won the love and respect of this community, and died very much lamented. He was a cultivator of the rich soil of this country, as well as the richer products of human regard. He owned a hacienda, or plantation, which he managed very successfully, and from it acquired considerable wealth that enabled him to be extensively charitable. Some of the clergy, it is said, amassed a very considerable amount of wealth in Cadereyta in earlier days. Some twenty years ago the house of a wealthy curate of this city was robbed of a large sum of money in coin, and an extensive service of silver plate. The robbers were never detected, as is usually the case in Mexico.

# THE REMAINS OF PADRE SANCHEZ.

The remains of Padre Sanchez were the next examined, twenty years entombed. On opening the coffin, which was yet tolerably sound, a full-length skeleton presented, every bone in place lying in perfect order, the gauze-like grave-clothes being no obstruction to vision. There was no odor perceptible. The soles of the shoes, lying below the bones of the feet, were all that could be said to be visible of the habiliments with which these remains had been clothed. The upper leather of the shoes was entirely wanting, as well as every vestige of other garments. And yet, perhaps, there was a part of his stole, or the slightest remains of what may have been a waistcoat about the bones of the thorax, which seemed to impede a little the examination. The skull was resting on a wool pillow, but without the case—the pillow case was wanting. Some locks of hair were observed lying around the cranium. This padre died at the age of thirty-seven years, and the skeleton was sound, dry, very light, and, what was remarkable, the cartilages of the larynx were ossified, and also the ensiform cartilage of the sternum. Every part of this skeleton appeared to be perfectly sound, and, excepting its brown color, would have served well as a skeleton for the anatomical rooms. In noticing the beautiful manner in which the bones of the feet and toes lay arranged on the floor of the coffin, I discovered patches of a texture nearly black, which, on close inspection, proved to

be pieces of the skin of the soles of the feet. Patches of the skin of the palms of the hands were also found, but my search for any other soft-solid texture than these thickened portions of skin, was entirely fruitless.

This one fact becomes apparent, then, that thickened portions of the tegumentary tissues are preserved longest of any of the soft-solid structures of human remains, entombed after the manner here described. Nor do I think any other agents than heat and the atmosphere have aided in dissipating these remains. And as for the dead buried six feet under the ground, it is not probable that they are eaten by worms; unless we admit the doctrine of equivocal generation, worms never devour bodies interred. How can flies penetrate the earth six feet and enter coffins and deposit the eggs which produce the maggot worms? The thing is impossible.

How long the bones of a human being would endure, vaulted above ground as these were, remains unknown, but, judging from the friable state of the skeleton forty years vaulted, I think that a century would reduce the flat bones to powder, and that the long bones could probably be pulverized in the hands. Deeply buried in the earth as by an earthquake, totally excluded from the atmosphere, the bones of animals and man endure thousands of years, it is said, and in a condition much sounder than the skeleton of the first padre examined, only forty years vaulted.

#### SOUL OR CHARACTER OF PADRE SANCHEZ.

Padre Sanchez was cut off in the prime of life by an attack of fever, during the epidemical years of the Irish famine. He was, it is said, a very companionable man; a jovial, lighthearted, agreeable priest, whose pious example made this people love their religion. I have his history from a wealthy citizen, who was his chum in college, and from what I learn of his character by him, his soul seems forever to have been pitched on the major key. His arduous duties during the epidemic, riding to the haciendas both day and night on sick calls, developed in him a violent attack of fever, which terminated his brief career of some three or four years only in Oadereyta. If I have been

interested in a scientific point of view in the examination of his bones, I have been edified also with his social and religious character. Goldsmith's beautiful description of the parson in the Deserted Village, seems apropos here—he "allured to brighter worlds and led the way," and scattered flowers in the pathway of all around him.

#### THE REMAINS OF PADRE GONZALES LEAL.

were the last examined, ten years entombed. This Padre was a little less than sixty years of age when he died, and being an exceedingly fat subject, the coffin had been filled with lime on being vaulted. To make short work of the matter, the Alcalde ordered the coffin to be upset, the coffin removed, and then the skeleton to be picked out of the lime and disentangled from the grave-clothes, which offered considerable resistance. The bones were perfectly sound and dry and much more free from the unctuous feel than the other skeletons, owing to the lime. No vestage of any soft parts could be discerned, nor was there any odor perceptible. I stood over the remains for half an hour, examining the bones, without being sensible of any odor whatever. Nor on subsequent visits during the week, after hundreds, if not thousands, of vaults had been opened and the remains pitched into the central pit, could I discover any putrefactive odor on or about the premises. None was perceptible from the great pit, more than half filled with the remains.

#### SOUL OR CHARACTER OF PADRE LEAL.

Of this Padre, comparatively but recently gone to his account, it may be said in a word that his ecclesiastic record is excellent. He rose, it is said, every morning before daybreak, and, repairing to the church, said his mass; and, in all that goes to sustain a high character in the fulfillment of his clerical duties, his record will not lose by comparison. He was wealthy, or in very affluent circumstances, and was excessively mirthful in his disposition, punning and joking in all sorts of ways with all who would listen to him. Unwieldly corpulent, he would sit on the shady side of the Plaza with whatever coterie of friends his mirth-loving habit might attract to him, and there crack his

jokes and reel his yarns to the infinite amusement of his humor-loving circle. The language of Shakspeare is applicable over his skull as over that of poor Yoric, "He was a fellow of infinite mirth," and dispensed an infinite amount of pleasure, no doubt, during his long ministration in Cadereyta. To sum up his mirthful character in few words, and which will be readily appreciated by those for whom I write, from all I can gather he would have been a boon companion for Abraham Lincoln, who from 1835 to 1840 might have been seen many a time and oft, to my certain knowledge and observation, sitting on a brick-bat by the side of some store in Springfield cracking his jokes and reeling his yarns to the mirth-loving groups of that latitude and longitude, ere the "irrepressible conflict" had opened.

Nevertheless the truth must be told, and if Padre Leal displayed an infinite capacity for mirth, he also, in the end, displayed an unenviable if not unchristian firmness of purpose in the discipline of his nephew, his sole heir. He was dearly devoted to his nephew, had educated him at St. Louis, Mo., and had openly declared him the heir of his bountiful possessions; but in consequence of some untoward act or disobedience of his nephew, which I never rightly understood (it having been rapidly told me in Spanish), he disinherited him! He soon after sickened and died, and without sending for his nephew to visit him. So the sun went down on his wrath at last, while his mirth was, as it were, yet fresh on the ear. But of these three holy men let me

"No longer seek their merits to disclose,
Nor draw their frailties from their dread abode;
There they alike in trembling hope repose,
The bosom of their father and their God."

# Physiology of the Spermatozoa: An Old View in a New Light.

BY S. S. HERRICK, M. D.

[Read before the New Orleans Medical and Surgical Association.]

In the study of Nature our achievments are limited by the imperfection of mental faculties, but the boundaries of knowledge have, at no previous time, been so rapidly extending as at the present. Especially is this the case in biology, which has actually undergone a complete reconstruction within a few



years, through the researches of such men of science as Darwin and Huxley. The doctrine of Evolution, through natural selection and the survival of the fittest, has gained general acceptance among those who can claim to be well informed, and is found to shed a flood of light on many points hitherto obscure.

The science of embryology, as enunciated by the physiologists of both the past and the present, has seemed to me unsatisfactory in explaining the mode of fertilization of the ova of the female of animals; though since the discovery of the spermatozoa, two hundred years ago, it has been generally agreed that these bodies perform an active and essential part in this work. Within a recent period they have been observed to enter into the ova, and the opening for their admission has even been discovered in case of some low forms of animal life.

The ancients were not agreed as to which of the parents furnish most of the material for reproduction. Some, among whom we find Pythagoras and Aristotle, supposed that the female played the most important part; others, with Galen, thought that the principle of life proceeded from the male, and was nourished by the female and brought to a condition fit for independent existence. The discovery of the spermatozoa immediately led to the idea that these were the miniature future beings, and they were supposed by some to be sexually developed, and even to copulate among themselves! This view, however, has not gained wide acceptance in any degree. prevailing notion has been, and still remains, that the ovum, having received some mysterious influence from the spermatozoa, proceeds to organize itself and to develop into the fœtus. In harmony with this view, it is held by some that several spermatozoa enter into the same egg, and thus more effectually stimulate it to action.

The first observers of the spermatozoa must have been struck with their immense superiority of development to the ova, in the possession of such definite shape and active movements as belong to certain recognized forms of animal life; but it is likely that these considerations were overcome by the arithmetical difficulty presented by their excessive number in comparison with the ova which they were intended to fructify, difficulty now disappears in the light of modern science.

Observation shows that prodigality in the waste of life is correlated with liberality in its production. By any known mode of sexual copulation, how exceedingly small would be the chance for a single spermatozoon to meet the ovum, and then find its way to the aperture provided for its admission, They must, therefore, be multiplied proportionally, at least. reality they are probably much beyond such necessary proportion; but, unless we suppose that all are endowed with precisely the same natural vigor, which is immensely improbable, this superabundance would be a great advantage to the future being, in giving room for the operation of natural selection by the struggle for life and the survival of the fittest.

The growth of the fœtus in utero, from the stage when it can be seen by the unassisted eye, is strikingly in harmony with the hypothesis of the descent of higher forms of life from lower by a process of evolution. In this process the human fœtus is observed to pass through all the grades of vertebrate organism, from the lowest to the highest, and analogy would allow us to follow the trace even to the form of infusoria. Suppose we start with this form in the spermatozoon, analogy would lead to its actual development in the mature fœtus at birth, though observation still fails to trace the earliest steps.

It is averred that the spermatozoon, after its entrance into the ovum, immediately disappears and is no more seen. It would, indeed, be unreasonable to expect to find it in its previous shape. The long caudal appendage, which was so useful hitherto in facilitating its movements, would now become a positive encumbrance, and the economy of nature would require that it should undergo speedy atrophy. At this stage the segmentation of the vitellus takes place, and it would be quite natural for the spermatozoon, having cast off its tail and its active movements, as no longer necessary for its welfare, to be lost among the granular segments until its new development should become apparent by differentiation from surrounding particles. The actual appearance about this time of the "embryonic spot," and the somewhat elongated "primitive trace," answer for the reappearance of the altered spermatozoon, and the development now proceeds without interruption.

It is to be observed that the above reasoning is intended to apply only to sexual reproduction, and is here restricted to those forms of animal life, in which spermatozoa are produced by the male organs. It is quite probable that a satisfactory analogy can be found in sexual plants, by a similar study of the pollen, and the field is an inviting one for botanists.

An apparent difficulty is presented by some examples of alternate generation in certain low forms of animal life. "The female Aphis, after being once impregnated by the male, bears, for a certain portion of the year, female young only, which are capable of being reproduced for nine generations without any of these females receiving any new influence from the male. In the last of these generations, occurring in autumn, males also are produced, which impregnate the females destined to carry on the same succession of generations during the next season."

This anomaly may perhaps be explained by the exercise of some such method of reproduction as division by fission, by attached buds separated after partial development, or by separated gemmæ developed after being cast off, in addition to the usual sexual mode. By similar reasoning may be explained the reproduction of the male drones of the honey bee from unimpregnated eggs; while the male element is needed for the generation of the more developed working bee.

The segmentation of frogs' ova without male impregnation, as observed by Moquin Tandon, and the incipient segmentation of those of the rabbit, likewise unimpregnated, as observed by Van Beneden, are probably the partial survival of asexual reproduction in these animals from an asexual condition of their remote progenitors.

According to this hypothesis (for it is yet nothing more) the spermatozoon which has overcome all difficulties and obstacles in its way to the ovum, and then overpowered or surpassed in endurance all its fellows in the struggle for existence, is the one fittest for survival and for contributing to the elevation of the species. The ovum furnishes pabulum, until attachment is

effected with the maternal vessels. The segmentation of the vitellus affords investments for the developing spermatozoon, after its absorption of the contents of the granules.

That the ovum simply furnishes sustenance to the living and moving germ is quite analogous to the part subsequently performed by the mother during both the period of intra-uterine life and that of lactation. And here it may be observed that the proper method of reasoning upon the unknown is by the use of analogy with what is known, if possible, or otherwise with what is probable and provisionally accepted. In the present case the function of the mother, after the attachment of the embryo to the uterus, is known, and furnishes a reasonable analogy. On the other hand, disregarding this analogy, and viewing the beginning of a new being as the interweaving of two separate threads into one tissue, we have to accept the mysterious involution of a dual principle of life, instead of the simple evolution of a living germ, kindred to the lowest recog nized forms of animal existence, from the reproductive organs of the male parent.

What may be the primative form of this germ before its elaboration in the male organs, we must inquire by analogy. Histology starts with the simple cell, and we need not attempt to anticipate microscopic anatomy and physiology in the search. The amæboid movements of some simple cells approach as near to the first signs of life as we need for the present study by analogy. The leucocytes of the blood furnish abundant examples, and the male organs can choose the likeliest specimens as they pass. Be it understood that all this is merely a supposition, and may give way to a more reasonable one, or be completely demolished by actually observed facts,

Candor in the consideration of this subject requires that the views of Darwin himself should be noticed. In his work on Animals and Plants under Domestication (Vol. II, pp. 435 et seq.) we read \* \* \* "Quatrefages has shown in the case of the Teredo, as did formerly Prevost and Dumas with other animals, that more than one spermatozoon is requisite to fertilize an ovule. This has likewise been clearly proved by Newport, who adds the important fact, established by numerous experiments, that, when a very small number of sperma-

tozoa are applied to the ova of Batrachians, they are only partially impregnated and the embryo is never fully developed; the first step, however, towards development, namely, the partial segmentation of the yelk, does occur to a greater or less extent, but is never completed up to granulation. The rate of segmentation is likewise determined by the number of spermatozoa. With respect to plants, nearly the same results were obtained by Kölreuter and Gärtner. \* \* \* From these facts we clearly see that the quantity of the peculiar formative matter which is contained within the spermatozoa and the pollen grains is an all-important element in the act of fertilization, not only in the full development of the seed, but in the vigor of the plant produced from the seed. \* \* \* The belief that it is the function of the spermatozoa to communicate life to the ovule seems a strange one, seeing that the unimpregnated ovule is already alive and continues for a considerable time alive. We shall hereafter see that it is probable that the sexual elements, or posssibly only the female element, include certain primordial cells, that is, such as have undergone differentiation, and which are not present in an active state in buds."

It is here apparent that Darwin does not pretend to be an expert in physiology, and that he accepts the views of those who are generally acknowledged as authorities in matters. It is likewise apparent that the observers quoted by him studied without the light of the modern doctrine of Evolution by Natural Selection, and under the influence of preconceived notions of embryology, which have enjoyed general sway since the study of nature began. "formative matter," as above used, is sufficiently vague in meaning to find favor with theologians, though perhaps a little in advance, rationally speaking, of the creation of matter out of nothing. The circumstance most difficult of explanation, on my hypothesis, is the alleged fact, that the rate of segmentation is determined by the number of the spermatzoa. venture the suggestion that the relation of cause and effect should be reversed: that is, certain ova are inherently defective and consequently attract fewer spermatozoa than

healthy ones would. It has already been shown that the probabilities are immeasurably against the success of a single spermatozoon to reach the ovule and find entrance through its minute micropyle; and, besides, that it would result in advantage to the future being for some certain spermatozoon to surpass all its fellows in activity. Whether such activity consists merely in power of locomotion, or also in militant action, need not here be considered.

On page 459, we read: "The male element sometimes possesses attributes which, if observed in an independent animal, would be put down to instinct guided by sense-organs, as when the spermatozoon of an insect finds its way into the minute micropyle of the egg, or as when the antherozoids of certain algae swim by the aid of their cilize to the female plant, and force themselves a minute orifice. In these latter cases, however, we must not believe that the male element has acquired its powers on the same principle with the larvæ of animals, namely, by successive modifications developed at corresponding periods of life: we can hardly avoid, in these cases, looking at the male element as a sort of premature larva which unites, or, like one of the lower algae, conjugates with the female element."

Here I am impressed that, had Darwin enjoyed a medical education, he would have had the boldness to throw off the shackles of authority, and search the mysteries of generation by the light of that great doctrine which he has established on a firm foundation, so evidently does he incline towards the hypothesis which I have presented.

Now, if it be asked, what advantage has this hypothesis over that one generally accepted by the physiologists, the answer would be, that it is more in conformity with what has been observed and provisionally adopted in other branches of biology, and, besides, is a step further in the study of reproduction. Granted that it has not been proved, and that for the present it is incapable of demonstration, it may serve to direct investigation, and flually elicit truth. Even in science the imagination is not without use, for it points the way of search. Let it not be forgotten that the planet Neptune was virtually discovered before it had been seen by human eye, by reasoning upon the requirements of accepted data in the behavior of matter subject to the laws of gravitation and motion. So the above supposition seems to me warranted by the doctrine of Evolution, and it is offered for the study of experimental physiologists, in no spirit of confidence, but simply in the hope that they may find Nature's truth, which is the aim of science.



Gastric Ulcer.

[A paper read before the Medical and Surgical Association of New Orleans.]

By E. DREIFUS, M. D.

This lesion, which, on account of its characteristic form and peculiar course, is designated as ulcus rotundum or perforans, was not known to the older physicians, at least they had no thorough knowledge of it, but confounded it generally with other morbid processes. It was first distinctly described by Cruveilhier, in his great work on pathological anatomy, in the year 1830; he saying, it was previously confounded with cancer of the stomach.

In 1839 Rokitansky gave an account of it under the name of perforating ulcer of the stomach. A very fine essay was published by Cruveilhier, in the *Archives Générales*, for February and April, 1856. To Dr. Wm. Brinton and his valuable essay are we indebted for many of the facts now known in regard to this disease.

The chief seats of it are at the lesser curvature, posterior wall, and specially in the pyloric portion, and at the cardia. In very rare cases it occurs in the duodenum or œsophagus.

The characteristic features of the ulcer are, its circular form, as if stamped out; and its tendency to extend destructively to all the strata of the gastric parieties. The process of destruction always commences in the mucous membrane, and is confined to it in a large number of cases. Accordingly we find not unfrequently in bodies the traces of a previous simple ulcer; and the healing takes place, as in all other ulcerations, by means of the formation of new connective tissue, at the

bottom of the ulcer, by which the edges gradually grow together and finally unite. In proportion to the loss of substance, will be the constriction and shortening, causing deformity of the stomach; and the consequences may be both a narrowing of the pyloric half, and also a considerable interference with the vermicular movements of the organ. But, if the ulcer progresses, it then frequently leads to perforation, and, by escape of the contents of the stomach, gives rise to general and usually fatal peritonitis.

In respect to extent and size numerons gradations occur, and the form of the stomach is still more irregular, when several ulcers become confluent.

#### CAUSES.

The causes of simple gastric ulcers are not sufficiently known. Probably several factors concur in their production. We may assume, as probable, that a partial disturbance of nutrition, due to disease of the blood-vessels, occasions a circumscribed gangrenous destruction of mucous membrane. The hypothesis, that an altered condition of the gastric juice gives rise to the ulcer, appears to me to be unfounded; nevertheless it cannot be denied, that the vermicular movements of the stomach and the action of the gastric juice hinder the cicatrization and consequent healing. Without doubt, similar ulcers occur on other mucous surfaces; but, on the one hand, they are not followed by the same severe consequences, as in the simple ulcer of the stomach; and, on the other hand, they heal much more readily. Under unfavorable circumstances, as has been mentioned, the ulcer ends in perforation of the stomach and fatal peritonitis; but this occurrence will not rarely be prevented by the circumstance that the base of the ulcer has formed adhesions to some of the neighboring organs. Such adhesions are formed corresponding to the seat of the ulcer, more frequently between the stomach and pancreas or duodenum, and also with the left lobes of the liver, the anterior walls of the abdomen and omentum, the spleen, the diaphragm, the colon, etc. If the loss of substance be small and the adhesions to the neighboring parts firm, life may be prolonged for a considerable period. But if the loss of substance be great, the function of the stomach will, in spite of the cicatrization, be

much disordered, and the nutrition of the animal economy will suffer severely in consequence. Besides, even with firm adhesions, subsequent perforations may occur, from softening of the false membrane.

## SYMPTOMS.

The symptoms which accompany ulcer of the stomach during life are very variable. Sometimes for a long interval the symptoms are very insignificant or may be entirely absent; but, for the most part, disorders of the stomach manifest themselves. Generally we observe a very painful sensation in the epigastrium, of weight, or drawing together. By pressure in the region of the stomach, a fixed, painful spot is detected. But these phenomena are also manifested in chronic gastric catarrh, and in carcinoma of the stomach; and either one of these complaints may be confounded with simple gastric ulcer.

The appetite is usually more or less disturbed, occasionally unchanged, and ofttimes increased. Yet the patients complain of slow digestion after meals, of pains, of pyrosis, eructations, etc. As the disorder increases, retching and vomiting make their appearance. The pain is generally fixed, but not confined to the same spot. All these symptoms, as is evident, are not pathognomonic, and physicians are therefore at an early period of the disease not in a position to make a positive diagnosis. The hæmatemesis is of greater importance, and it is also one of the most dangerous symptoms, from its dreaded tendency to relapse. Vomiting of blood occurs with varied intensity. The vomited matters are either only slightly tinged with blood, or are colored chocolate brown, or like coffee grounds, the dark color arising from the action of the gastric juice upon the blood effused into and detained for sometime in the stomach.

Should, during the course of ulceration, a larger blood vessel be eroded, the hemorrhage might be sufficient to cause immediate death, or at all events the highest degree of anamia, and exhaustion would result. A feeling of weight and fullness of the epigastrium frequently precedes the vomiting of blood. The hæmatemesis may take place at any period of the disease. The results of profuse vomiting of blood are similar to hæmorrhages all over the body-syncope, pallor, coldness of the extremities, feeble pulse, etc. Sometimes hemorrhage takes place without vomiting. If a patient suddenly turns pale after a momentary feeling of weight and heat in the epigastrium, and, on examination, the region of the stomach yields a hollow percussion sound; if the pulse becomes feeble, and syncope comes on, from these symptoms we may conclude that an internal hemorrhage has taken place. Such an internal hemorrhage may occasion death without vomiting, as the bleeding generally occurs during digestion. Bodily and mental emotions may induce it, but especially any excitement of the circulation. Emetics also, for which the patient often craves, may bring it on.

Several stages of this disease may be distinguished. In the first, the formation of the ulcer occupies a considerable time for its completion, the chief symptom being simply a kind of gastralgia, sometimes indeed of a most intense degree. The pains present nothing characteristic; they may be continuous and fixed or paroxysmal, and may be very easily mistaken for nervous gastralgia. The occurrence of pain in the spine opposite the epigastrium is also not characteristic, being found in other gastric affections. Hence, in the early stage, ulcer of the stomach is very difficult to diagnose. Palpation reveals at most a fixed spot, where pain is increased by pressure, and only in the case of persistent adhesions can we sometimes discover a certain induration.

In the succeeding stage vomiting of blood comes on, from which we are better able to decide on the nature of the disease, although this symptom does not exclusively belong to simple ulcer of the stomach, but does sometimes appear in the course of carcinoma of that organ. Even in this stage of the disease, Drs. Brinton and Budd say: "Often repeated hemorrhages have taken place; the process of healing by cicatrization does sometimes occur, and patients do get well." It has been my lot to see only two cases, and both proved fatal. Hemorrhage must always be regarded as a very grave symptom, because the bleeding itself may prove dangerous. And, besides, it indicates that deeper ulceration is in course of progress. Usually all the blood is not vomited, but a portion passes off by the stools, in

an altered condition, and sometimes the whole of the effused blood is so discharged.

In the third stage perforation of the mucous membrane takes place, in consequence of which the contents of the stomach escape into the cavity of the peritoneum, causing a usually rapid and fatal peritonitis. This can only be averted in the case of slowly formed perforation, by adhesions to the neighboring parts, and sometimes these adhesions give way at a later period. If these adhesions are extensive, and give rise to a hardness perceptible to the touch, they may be confounded with carcinoma. Occasionally perforations occur suddenly, not preceded by other considerable symptoms of disease, as for instance, when the progress of the ulcer is quite latent. Extensive adhesions may occasion long continual disorders of the stomach and induce ill health; but a small adhesion may remain alter cure, without producing any derangement of the stomach whatsoever.

The morbid appearances to be looked for after death, are a smooth, round, ulcerated spot, as if stamped out, and adhesions. We know that gastric post-mortem changes occur early, and are sometimes due to cadaveric digestion, as well as to hypostases and putrefaction; and they have sometimes been misinterpreted as the ante-mortem lesions of inflammation, ulceration and perforation. There are few dead bodies in which the stomach is not in some degree digested. Its greatest ravages are found in the bodies of those suddenly kifled, after a hearty meal, especially if the body has been kept in a warm place. In such cases the stomach may be perforated with ragged, lacerated openings, and its contents be found floating in the abdominal cavity; or even greater ravages may ensue.

Cadaveric digestion sometimes presents erosions enough to simulate ulceration; and drops of blood may flow from the digested ends of small vessels, when pressure is made on the branches from which they are derived.

From the above facts it is manifest that, since engorgement with discoloration, softening, opening of the vessels, and destruction of tissues do occur in the most depending part of

the stomach, as results of hypostatic, digestive, or putrefactive post-mortem changes, too great caution can not be exercised in attributing any such changes to *unte-mortem* lesions, when these changes are limited to its splenic end and to the line of gastric contents.

#### PROGNOSIS.

The prognosis of ulcer of the stomach is always doubtful, although many cases of cure are said to have occurred, and although authorities say a cure may take place at any stage of the disease, I shall always consider it a very grave and serious, if not fatal malady. Death results either from hemorrhage or peritonitis; or, when the disease is of long duration, from exhaustion. From various statistics I have found that nearly one-third of all known cases of simple ulcer of the stomach prove fatal.

#### TREATMENT.

As regards treatment, little is to be said beyond hygienic measures and nourishment, as there are no specifics for this complaint. The most important rule is, that the patient subject himself to a most rigid dietetic regimen, and observe the strictest quietude, in order, if possible, to favor the cicatrization of the ulcer. Besides this, we must endeavor to combat particular distressing symptoms. Milk diet is certainly the best that can be used; and, in consequence of the great irritability of the stomach and the difficulty of patients' retaining any food, I would suggest feeding by the rectum, as we now know that absorption goes on just as readily there as per viam naturalem; and we consequently lessen the peristaltic action of the stomach, which seems to be one of the prime causes that interfere with cicatrization. To allay the gastralgia, hypodermic injections of one of the salts of morphia and other narcotics may be used, and for the frequent constipation enemata may be employed; for the obstinate vomiting, ice, alum or tannin, and small quantities of carbonic acid waters; for hematemesis, ice, alum, tannin, bismuth, hypodermic injectious of fluid extract of ergot or ergotine; besides the tinct. ferri chloridi; and, in addition, what appears to me the most rational of all, is the frequent washing out of the stomach with a stomach-pump, using a three per cent. solution of carbolised water.

The greatest obstacle towards a successful treatment seems to be, that the chief indications, absolute rest and abstinence from everything injurious, cannot be fulfilled. We are therefore compelled to confine our efforts to reducing the action of the stomach to its minimum, using the most easily digested food, and to feed per rectum. This course of treatment must be persevered in for a long time, alternating when the rectum becomes irritable, as it will usually do, and feeding by the mouth again, but only in the most minute quantities and such articles as require little or no digestion. For perforation little, of course, can be done, and treatment of symptoms is alone available.

# A Case of Labor. Transverse Presentation-Version.

By L. M. GRIFFIN, M. D.,

Oakley, La.

I was called to see Rachel Williams, aged forty years, the mother of eleven children, on the evening of the 2d of July. I found two old midwives in attendance, and from them I got the following history of the case:

The patient, who had gone to the full term of pregnancy, was taken with labor pains on the 16th of June. The contractions occurred at intervals during three or four days, and then ceased. Two physicians had been called to see the patient, and had pronounced the case a natural one, and left it to the management of the nurses. The grannies had used cotton root, and gunpowder and whisky, to produce contractions, but fortunately they failed. On the evening of the 30th of June (two weeks after the commencement of labor), the placenta was delivered in a putrid state, one or two slight contractions occurring at this time.

When I arrived (July 2d, 9, P. M.), I found the woman conscious, with but little pain, and pulse almost normal. On making digital examination, I found the os was very flabby, and would only admit the tips of three fingers. By external

examination, I found that the child's head was in the left lumbar region, and its breech opposite on the right side. I commenced to turn by external manipulation, carrying the feet downward, and after two hours' work, succeeded in converting the child's position into one of breech presentation; but, as I was giving a dose of ergot, the woman suddenly turned on her side and the child resumed its former position.

I now found that by pressing on the head I got distinct crepitus. I could not succeed in turning any more, and at 6, A. M., on the 3d, I sent for Dr. J. A. Holloway. He arrived shortly after 11, A. M., and we again turned by external manipulation. Then, while he held the child in position, I administered repeated doses of ergot, and soon had the satisfaction to note the contractions of the uterus. Dr. H. then introduced his hand and dilated the os till the left foot could be brought down. We then made traction, continued the ergot, and assisted the uterine efforts by external pressure, and at 3, P. M., succeeded in delivering a large female child, in an advanced stage of decomposition. It was a case of hydrocephalus; the skull held about three pints of water, but had been crushed by the pressure, and had thus given rise to the crepitus of which I have spoken. The delivery was effected sixteen days after the commencement of labor.

# Bromide of Potassium and Chloral Hydrate in Labor. By ROBT. E. RICHARDSON, M. D.,

Fayette, Miss.

On the 27th day of June, of this year, I was called to see Mrs. ——, in the first stage of labor with her fifth child. This lady is the most intensely excitable person that I have ever known. Two years ago I delivered her of a full grown, healthy child, using chloroform by inhalation, and sulph. morphia hypodermically, to control convulsions, which were severe.

Soon after becoming pregnant with this child, some indiscreet lady friends detailed to her an exaggerated account of the two cases, under my care in January last, short notes of which were published in the JOURNAL. From that time to the

beginning of the present labor, not one day or hour during her waking moments, was her mind free from apprehension. Auticipating serious trouble, I determined to avoid it, if possible. Having her entire confidence, I suggested that colic, and not labor, was the cause of the present pains, which had the effect of quieting the mental anxiety as to the labor. I was afraid of chloroform in this case, and determined to try the virtues of bromide potassium, grains xx., and chloral hydrate, grains xv., every hour, till fully under the influence, and as often thereafter as might be necessary. The second dose induced sound sleep; only during the pains would she rouse up to wakefulness, and then return instantly to sound sleep again. At four o'clock in the morning of the 28th of June, she unconsciously gave birth to a girl child weighing one and one-half pounds, the smallest infant, by far, that I ever delivered or saw.

During the whole labor she was perfectly ignorant of the real state of the case, owing to the happy influence of the bromide of potassium and chloral; nor did she become fully aware of the fact for about eight hours, when her astonishment could only be imagined and not realized, as she had determined, in her own mind, that a series of convulsions must attend the delivery of the child. The infant looked like a very old woman in miniature, slept almost constantly for more than twentyfour hours, the effect, possibly, of the chloral swallowed by the mother. So feeble was the little thing that it could not draw nourishment from the breast, and had to be fed artificially Though I urged the mother to feed the child from her own breast, by the aid of a good pump and spoon, my injunctions were not heeded, but, as too often is the case, the advice of non-professional friends, and mixed breast milk, cow's milk and condensed milk, were given. Under all these disadvantages, the child lived until five o'clock, on the 14th of July, instant.

Does not this case clearly exhibit the influence of the mind over the proper nourishment and growth of the fœtus in utero? May not bromide of potassium and chloral be safely and justifiably used in all cases of labor, but especially in protracted and painful ones? May not the free use of these remedies in cases of threatened convulsions, serve to expedite the labor and prevent convulsions? I think so in this case? It is my custom to use chloroform freely in my obstetric practice, but in this case it was not used at all.

The lady has improved daily in health since the birth of the child.

# CORRESPO NDENCE,

Mr. Editor-It would be a most unthinking pen which, in commencing a letter to readers in New Orleans, did not at once express the deep sympathy felt by the whole North for your plague-stricken city. We, of Boston, though separated from you by almost the breadth of a continent, never forget that we are all Americans; and in this terrible experience through which you are passing, our feeling of pity, of sympathy, our gladness to offer help, are as involuntary and spontaneous, as if we were hastening to the aid of one of our own family. I hope the needy of the South will feel that Boston has been liberal. Money, unfortunately, is not plentiful in any American city in these days, but each one has done what he could. We are thankful to learn that the scourge which has made such sad ravages in New Orleans is beginning to disappear. Let politicians hereafter wrangle as much as they are inclined,their ends are mainly personal,—but it will be difficult to believe that the feelings which the present trials of the South have called forth, will not cement a mutual attachment between. and unite the two sections of our common country.

We have many misgivings and unsettled doubts as to what may have fostered the spread of yellow fever in Southern cities. We wonder whether hygienic conditions and municipal cleanliness are as carefully nurtured and insisted upon there as with us. And in these days, when thoughts are aroused to the great, the vital necessity of health regulations and avoidance of the slightest accumulation which might serve as a nidus for disease of any sort, we feel grateful for the good order in which Boston is kept. But, nevertheless, having our own house of

glass, we do not dare to throw stones of greater weight than will serve to patter a hint upon, without injuring, the houses of our neighbors. Strange as it may seem, the drainage system of some of the fairer portions of our city is so imperfect as to have created considerable alarm. The fact has been recognized, the need is seen, and though millions will be required to foot the bills, there will be no looking back. Perhaps no greater or better work has been accomplished by medical scientists of recent years than the instruction of the laity, imperfect though this knowledge be, in regard to drainage and ventilation. It were a most careless, ignorant man who would now build his house without making drainage and drain-pipes of first importance. He could hardly be so foolish as to build brick drains, when iron or earthern pipes are so much safer and in the end so much cheaper. In our Northern houses, too, we know how much less is our danger from diphtheria and typhoid, if our waterclosets are properly ventilated by an air shaft, which should be so constructed that it is a continuation of the discharge-pipe to which the closet is merely an attachment. Traps are very well and do offer a certain amount of resistance to sewer gases; but we all know how little pressure is necessary to force gas through the water in a trap. How much better, then, to provide an unobstructed passage for foul air. Where this has been done in dwellings in which no reason for complaint has been observed, there inevitably has followed an almost unaccountable increase of bien-être and appetite, with fewer headaches; diarrhœa too becomes almost a stranger. During the winter months our homes in many instances require double windows, and we miss the pure oxygen of the summer days. Imagine, then, how vital it is to keep in-door atmosphere free from poison; and since a most insidious form of sewer gas carries no odor with it, so much the more anxious should we be to give the enemy no possible means of entrance.

If you in gentler climate can throw up the window with impunity on a January day, still the need of pure air is equally great, especially so, since you lack the keen northwesters which sweep away impurities from our atmosphere; but in the swift current of your noble Mississippi you have the

first requisite of thorough and perfect drainage. Our medical schools of the better class are giving more attention to these matters. The good old legend "Prevention is better than cure," is being furbished into brightness which attracts the eye even of the most careless and unthinking. It is a pity that thoughtlessness is a fault of many physicians; that when one of these has made a kind of diagnosis of his patient's ailment, his hand mechanically seeks the pencil, mechanically writes the routine prescription, mechanically adds the "one teaspoonful (or what not) three times daily," and then he goes away without a question or a thought, even as to hygienic conditions, attention to which, of the simplest nature, might permanently have benefitted his patient, while as it is, the drug does nothing and the doctor is baffled. But after all, the good, bad and indifferent minds in all sections are far too deeply tinetured with the laissez-faire indolence which tempers even the most active. This indisputably has an immense influence on the conditions of cities and their inhabitants everywhere.

Our regular school of medicine in Boston enters upon every new year with increased satisfaction, for the higher standard of education, adopted a few years ago, at first was nothing less than an experiment, to undertake which, required a devoted courage on the part of professors and trustees. Many of them must have been in great doubt as to the result, but they unanimously agreed to accept lessened salaries and insist upon the preliminary examination and the more advanced system of study. Probably they did not anticipate the success which has followed. It has indeed been striking. Not only have the classes latterly been as large as formerly, but their quality is incomparably better. The students who do not possess university or scientific degrees are now the exception. A Harvard Medical Degree of to-day is the most valuable diploma which is issued in our country. It is true that the University of Pennsylvania has adopted a higher standard of education, but it is not so strict in all its requirements as is the Harvard. One other school has followed, and I believe a California institution has decided to do likewise; -still, not one has dared to begin a system so entirely de novo as that of

the Harvard School. The latter even now is not satisfied with her present success, but is agitating a greater advance. Other schools must follow her example or lose prestige. The Jefferson school of Philadelphia has gone so far as to permit students to elect a yearly examination on certain branches of study, but we all know how much that is worth. A permission of that sort will not give increased character to the school. It is merely a sop thrown to that portion of the public which interests itself in medical education. The Jefferson school writes a larger number of diplomas than any other in the country; but in view of the fact that other schools are adopting a stricter system of study and examination, the overwhelming classes at Jefferson Medical College will bye-and-bye become significant. Of what, need not be said. But the faculty of that school is pretty nearly a unit in its determination to do as it has done.

No one will dare deny that much of this condition of things in various large schools of New York city and elsewhere, arises from the fact that an advanced system of education in medical institutions endangers the incomes of professors, who divide their yearly "pool" instead of having salaries. The Harvard School is so arranged that any specialty may now be studied there under men who have drunk from the best sources of European teaching. So that a young graduate of any other school, who wishes to pursue a special branch, but cannot afford to go abroad, can enter the post-graduate course and select at will from at least fitteen special subjects, most of which are not ineluded in the regular course of the old-fashioned schools. Facilities for study here are excellent, and the manner in which teaching is done in many respects is not only very efficient, but is peculiar to the Harvard School. I regret that space does not allow me to enter into detail. The two large hospitals offer almost unlimited clinical material, and our Dispensary is so managed that on certain days students can there examine patients in any class of disease they may prefer, without meeting those of any other.

Very likely you hear less about Boston medical men than they deserve. This is due to the fact that, while they are hard students and excellent practitioners, a sort of conservative silence in regard to their daily experience seems to have passed into a custom. Of course this is to be regretted, and the younger men are rapidly growing away from what ist ruly a dangerous influence. We, likewise, have our fair share of medical Grundyism. This naturally fetters men who would be glad to do certain harmless things, which would not in the least encroach upon the ethics of our school, but which are met with shrug of the shoulder, and, therefore, in most instances are discouraged. Some men, however, are more independent, "do as they Massachusetts please," and win good rank.

Our State Society is agitating the subject of a new code of ethics. At the last meeting of the councilors of the society, a code was presented by the committeewhose duty it was to prepare it. This code had been prepared with most patient care. It included the best precepts of every code which ever existed, from the time of the dove and olive branch down to the present century But evidently there were too many precepts, for the code was rejected, and the committee is at work upon another. It has always seemed to me that medical ethics might be summed up in such treatment of one physician by another, and in such bearing of physician to patient, as would naturally spring from simple, unhesitating courtesy. What more can a code of ethics include? Courtesy means the possession of unselfisness, patience, charity, and sympathy, as well as a gentlemanly demeanor. The golden rule, after all, is the true code of ethics.

How many matters there are pertaining to medical life and experience in Boston which would interest your readers. But since you cannot devote an entire number of your excellent journal to a rambling letter, I must leave space for others. But let me add that, as regards all advance in medicine, Boston is ever in the van. This suggests the very favorable results in the use of the antiseptic treatment of wounds at our principal hospitals. This form of treatment has been quite thoroughly tried in Boston during the past twelve months, and I believe has been practically accepted by most of our leading surgeons. The very readable papers on this subject, published some

months ago in your journal, gave much satisfaction here and were read with keen interest.

In closing may I call your attention to the medico-legal papers in several of the summer numbers of the Boston Medical and Surgical Journal. They were written by members of the Medico-legal Society of Massachusetts and give evidence of what will undoubtedly be accomplished in the future by this society. As you may know, it grew out of the comparatively recent appointment of competent "Medical Examiners" throughout the State, after the abolishment of the wretched system of examination by a multitude of ignorant coroners. The medical examiners are men of education, they have liberal salaries, and in his own district each one makes a thorough examination in every case in which there is any question as to the mode of death. The district of one examiner covers an extent formerly fleeced by any number of coroners, and since the new system is not local but extends throughout the commonwealth, it is hoped it will do much to revolutionize the present very imperfect medical jurisprudence of the whole country.

H. O.

Boston, September 28th, 1878.

PLANTERSVILLE, MOREHOUSE PARISH, LA., August 20, 1878.

S. M. Bemiss, M. D.:

Dear Sir—Knowing the interest that you take in everything connected with the profession, I herewith send you a report of a new form or type of malarial fever.

About the middle of July our usually healthy term was suddenly broken by the occurrence of a great many cases of severe sickness, commencing with slight frontal headache for two to five days. Then a very slight, or really not perceptible, chill was followed by intense fever for twenty-four to twenty-six hours. Accompanying the fever there were increased frontal pain, with coma and low delirium in some cases, nausea, vomiting of bile, pains in back (region of kidneys) and in the legs and hips. Bowels very much constipated (almost impossible to move), and urine very high colored, thick and scanty. Of urine only about a tea-cup full was passed in the twenty-four



hours, although there was constant desire to do so. Only perhaps a teaspoonfull, and that causing pain and heat of urethra, could be voided at once. With all, there was a most intense and constant thirst, but water was no sooner down than ejected again. When the fever was broken, the skin and conjunctiva became in every instance of a decided yellow—often a brownish yellow,

This new type of "our native" came on us fully a month sooner than usual, and was equally bad in swamp and upland, town and country. Up to to-day (being the 41st day) I have attended 74 cases—62 whites and 12 blacks.

Of the blacks, 7 are 4 years and under; ages of others, 12, 16, 20, 30, 45. Of the whites, 5 under 3 years; 18 from 3 to 12; 25 from 12 upwards; 6 over 50 years. Convulsions in 3 cases, with passage of large lumbricoidia in 2 of the 3. All these have occurred within a circuit of seven miles in diameter, and I understand it is in the same proportion all over the parish. In some parts there have been a number of deaths, but it is from neglect to treat in time, from age (old age) of the patient, or previous debility. Weakly persons and healthy were alike attacked, no distinction being shown.

The form of disease seems to yield readily to proper treatment at the right time. Calomel in full purgative dose (six to ten grains in four portions, one every half hour or hour), quiets the nausea; and, alternated with or given after calomel, quinine controls the fever, causing the crisis (sweat), to come on in from one to three hours. With the sweating stage all unpleasant symptoms cease, and the patient is apparently well, except extreme weakness. But the purging must be very thorough, and quinine in about double usual doses—say

12 to 15 grains for child 3 to 5, divided in 4 or 5 powders.

15 to 20 " " 12 " 18, " " " "

25 to 30 or 40 grains for adult, " "

Commence at any period of the fever, and keep the case fully under the influence of medicine for twenty-four hours. Calomel seems to act like a charm, with high fever, restlessness, coma, or slight delirium, quick pulse, etc. I have known the second portion of calomel to produce rest, quiet sleep and per-

spiration, within from one hour to one and a half hours from commencement of taking. The decline of the fever is followed by great depression and weakness; children even feel no desire to be up "between times."

Diet: soups, milk punch, and alcoholic stimulants as soon as fever passes off, with quinine.

I have thought that perhaps our new type was from yellow fever influence, our winds having been south and southeast for nearly two months. Certainly there is a very strong resemblance to the mild cases of the yellow fever that occurred in Augusta, Ga., in 1854.

Cinchonidia acts equally promptly with quinine. I cannot see any advantage, one over the other. The cinchonidia may be, perhaps, a little more heady than the other.

Small doses of medicine do no good; the treatment must be prompt and heroic.

There is no return of the fever, if the patient is freely purged and misses the next fever. I have had but two relapses in seventy-four cases—one at fourteenth day, one at seventh—(but the fever was not so severe, and was free of the headache, backache, and nausea—more like our common cases of fever.)

Negroes do not seem to have the disease as readily as whites. There are two to one of whites here, which would put it one negro in eight cases, in proportion of the population.

Query—Could this type have been produced from Vicksburg or New Orleans by the south and southeast winds?

In two or three cases, which had been neglected (fever allowed to return several times), I noticed that the vomit was a dark greenish brown fluid, looking like strong oak ooze.

I was at a loss at first for proper treatment, but went to work as in a case of common congestion of stomach, and up to present writing have lost no cases.

The weather, up to about July 1st, was continual rains and clouds, but since the middle of July almost constantly hot and still. The winds were very light, and south, southeast and southwest.

Very truly, your obedient servant,

BEN. H. BRODNAX.

# CURRENT MEDICAL LITERATURE.

#### IN MEMORIAM-DR. CRAWFORD W. LONG.

Although we noticed the death of this illustrious physician in our August number, the nature of the accompanying preamble and resolutions, and our high esteem of the worthy. compel us to give place to the accompanying paper:

"At a called meeting of the physicians of Athens, held July 6th, 1878, the following preamble and resolutions were unani-

mously adopted, to wit:

Dr. C. W. Long was born in Danielsville, Madison Co., Ga., on the 1st November, 1815. He graduated at Franklin College University of Georgia in 1835. He studied medicine and gradnated at the Medical Department of the University of Pennsylvania in 1839, and died in Athens, Georgia, June 16th, 1878—having been for nearly forty years engaged in the

practice of medicine.

Dr. Long was an honor to the profession, regarding it as a medium through which to make his life a blessing to the world, He was a high minded christian gentleman, always just and liberal toward his professional brethren, holding sacred their reputation, as his own, by strictly observing the highest code of medical ethics in all his associations with them, He was never known to make reflections or criticism detrimental to any to whom he was called in consultation. As such, all his neighboring practitioners held him in their highest esteem and confidence, and almost invariably Dr. Long was called on to attend the sick chamber of physicians and their families. Truly did he subordinate his desire for fortune and fame to the one great purpose of benefitting his race. His highest ambition was to do good and leave the world better by his labors. Truth, honesty and candor marked his character while he cultivated the noble qualities of love and mercy.

Not only did he visit the homes of wealth and luxury when called to relieve affliction, but was liberal in bestowing his benefactions to the poor by carrying relief and comfort to the inmates of hovels with no hope of reward but gratitude and love-always feeling strong conviction of heart and mind of the truth that the drying up of a single tear has more of

honest fame than shedding seas of gore.

His noble sympathy for woman was always manifest in his self-sacrificing devotion for her relief and comfort in the hour of trial and suffering, as was so nobly displayed in the very

last act of life.

Resolved, 1. That in the death of Dr. Crawford W. Long, the medical profession, the church, society and the State have lost a faithful and devoted member, a true and good citizen.

Resolved, 2. That we, his professional brethren, do most heartily endorse the claim (as so clearly proven by Dr. J. Marion Sims, of New York) of Dr. C. W. Long as the first discoverer of anæsthesia by the use of sulphuric ether.

Resolved, 3. That the highest honors are due to the memory of Dr. C. W. Long for his discovery, by which so much pain and suffering have been spared, and that we will ever regard him as a true philanthropist and benefactor of mankind.

Resolved, 4. That we earnestly request the Legislature of Georgia, at its next session, to make an appropriation for the erection of a suitable monument in honor of Dr. Crawford W. Long, as the first discoverer of anæsthesia, to be located at the University of Georgia, or at the Capital of the State. And furthermore, that we request the delegates who attend the American Medical Association from Georgia, to bring Dr. C. W. Long's claims to the discovery of anæsthesia prominently before that body, and urge that such steps be taken as will secure to the memory of one who has done so much for the profession and the alieviation of suffering, his just dues.

Resolved, 5. That we do most sincerely sympathize with the stricken family in the great loss they have sustained by this sad bereavement. And that a copy of these resolutions be sent to the family of the deceased; also to the Southern Banner, Southern Watchman, Southern Med. Record, and the

Va. Med. Monthly, for publication.

G. L. McCleskey, M. D., R. M. Smith, M. D., John Gerdine, M. D., J. E. Pope, M. D., Wm. King, M. D., Committee.— Va. Med. Monthly.

#### POISONING BY THE CYANIDE OF POTASSIUM.

Dr. Auguste Fisher, of Prague, believing that he had discovered in the hydrochlorate of ammonia, the antidote for the poisonous effects of cyanide of potassium, recently submitted his discovery to the test of personal experiment. He expired in the most intense suffering a few minutes after taking the drug. He was the author of a work entitled: The Way to Render Cyanide of Potassium Innoxious.—La France Medicale.—The Medical Record.

## ACTION OF IODOFORM.

Dr. Sigmund, of Vienna, has used iodoform with very successful results in ulcerative and indurative processes, glandular swellings, rhagades, and gummata. He employed the following formulæ: Iodoform and spirit, each 1 part, glycerine 5 parts; or 1 part of iodoform in 3 or 4 of sugar; or 1 of iodoform in 5 of vaseline; or iodoform collodion (1 in 10 or 1 in 15). The pain was unimportant; the surfaces of the sores became clean in from twenty-four to forty eight hours, and granulated favorably. The offensive smell of diphtheritic and

cancerous ulcerations was entirely removed by the remedy. Dry iodeform in powder, applied to fresh wounds, forms an uniform firmly adherent paste.—Deutsche Med. Wochenschr., August 10th.—British Med. Journal. September 28th, 1878.

#### IODOFORM.

Dr. Moleschott, of Turin, writes that he has used iodoform with success in cases which have been usually treated by iodine ointment, such as glandular swellings and cold abscesses. He mentions a case of enlarged spleen, with great prostration, pallor, obstinate diarrhora, swelling of the lymphatic glands, and increase of the white blood-corpuscles (1 to 50 red), in which very favorable results followed the painting of iodoformed collodion over the spleen and lymphatic glands. Not less successful was its application in orchitis and epididymitis, and also in exudations into serous cavities, even including hydropericardium. He advises that iodoform collodion should be tried before paracentatis, whenever removal of watery effusion is necessary. He has cured five cases of acute hydrocephalus by the application of this remedy several times daily; calomel and purgatives being, however, given at the same time. In cases of swelling of the knee-joint, where surgical interference appeared unavoidable, perfect recovery followed the prolonged local application of the iodoform. Apart from its action as a resolvent, iodoform has the property of relieving pain. Dr. Moleschott hence recommends its use in painful attacks of gout, and also in various forms of neuralgia. In a case of intercostal neuralgia, he gave it internally in the form of pills (three-fourths of a grain daily) as well as externally. In severe neuritis, he has used iodoformed collodion successfully after other treatment had been tried in vain. Administered internally, it will probably be useful in the palpitations of nervous and hysterical patients, and will restore the regularity of the heart's impulse. Its offensive smell is obviated by mixture with tannin. - Giornale Internazionale delle Scienze Mediche, Nos. 5 and 6, 1878. - British Medical Journal, Sept. 28th, 1878.

#### OPTHALMIA IN NEW-BORN INFANTS.

Dr. Luton, of Reims, advocates in the Revue Medicale, the use of iodine dissolved in cherry-lanrel water. Ten drops of the tincture in ten grammes of cherry-laurel water makes a colorless mixture, leaving no precipitate, while in the same quantity of distilled water a colored precipitate would soon form. The decoloration is owing to the production of hydriodic acid and iodide of cyanogen, two colorless bodies in solution. A mixture containing one part of tincture of iodine to twenty parts of cherry-laurel water is a collyrium of incontestable power, in the purulent opthalmia of infants. The

liquid is to be dropped between the lids five or six times a day, besides external applications. In efficacy it is declared to be superior to nitrate of silver, while it has the advantages of being both painless and safe.—Med. and Surg. Rep., August 13th, 1878.

#### CASTRATION.

A discussion on this subject took place at the Société de Chirurgie (Bulletin, May 8), in connection with a case related by Dr. Poinsot, of Bordeaux, in which the ligature of the cord en masse had been blamed by M. Despres, as risking the production of tetanus. Dr. Poinsot quotes the experience of Bouisson, Delpech, Lallemand, and Serre, who never met with this untoward occurrence from following the practice in question. Sedillot and Legouest doubt the reality of the occurrence of tetanus, and both Giraldès and Tillaux are partisans of the procedure. In a case referred to by M. Poinsot, also, in which the vessels were separately tied, tetanus occurred. M. Desprès, in reply, stated that there could be no doubt of tetanus having followed ligature of the cord en masse, for those present had witnessed an example in the service of M. Nicaise. Why, in fact, should we act differently with the testicle than with other organs? and who would ever employ a ligature en masse in amputation? M. Forget, however, observed that he had often seen Lisfranc perform castration with a ligature en masse, and never knew tetanus to follow. He employed a very thick thread, declaring that neither hemorrhage nor tetanus could occur, since by strong constriction he instantly destroyed the tissues comprised within the ligature. M. Le Dentu said that he had often performed castration, and had found the tying each artery separately very easy, and he considers the ligature en masse to be a bad operation. On the other hand, M. Tillaux observed that he had also performed a considerable number of castrations; and although he always used the ligature en masse, he had never met with tetanus. By this procedure he considered one of the greatest dangers of castration is avoided, viz: hemorrhage, which is always to be feared unless the three arteries of the cord are tied. These arteries, which are of very small size, retract, and do not bleed at once; and it is only at the end of some hours that a hemorrhage, which may prove very difficult to arrest, occurs. As to attributing tetanus to the ligature en masse, we must first prove that the ligature of a nerve will induce tetanus. This is very doubtful; and it is by no means rare, on tying an artery, to include in the ligature a nervous filament, without tetanus being induced. Recently, M. Tillaux, in an amputation at the shoulder, tied the brachial plexus en masse, without the slightest ill effect resulting. There is no proof that the ligature of a nerve may give rise to tetanus, any more than ligature of a muscle. The chief objection to ligature en masse is the great delay which takes place in the coming away of the ligature; and to obviate this M. Tillaux is accustomed to separate the cord and apply three or four ligatures, according to the size of the cord; so that there are partial ligatures en masse, which come away in from eight to twelve days without causing any accident. M. Sée, after having performed several castrations with ligatures en masse without meeting with any accident, has yet abandoned the procedure, because in large cords the constriction ceases after some hours to be sufficient, and hemorrhage may occur. He substitutes the following procedure: After the cord has been dissected its fibrous tunic is divided, so that the various parts may be displayed, and the arteries, which are then easily distinguishable among these, are tied one after another prior to their being divided. Prof. Verneuil disapproves of ligature en masse, and has not found any difficulty in seizing the open arteries by hæmostatic forceps, which, after the removal of the tumor, are replaced by catgut ligatures. To be secure against all hemorrhage, the veins as well as the arteries should be tied, these veins having no valves. In order to be secure against secondary hemorrhage, M. Desprès thinks four ligatures are required, for, besides the arteries of the cord, the artery of the dartos has to be secured. They may be secured at once, without the application of the hæmostatic forceps. After ligature en masse, purulent infection may occur as well as secondary hemorrhage.-Med. Times and Gazette, July 20, 1878.-The Monthly Abstract of Medical Science.

#### THE TELEPHONE SAVES A LIFE.

A striking instance of the value of this new invention has just occurred in our city. Dr. Carson, of Bowling Green, had brought to Dr. W. O. Roberts a case of traumatic aneurism of the femoral artery, the result of a gunshot wound received two months ago. The opening in the integument had healed, but the scar over the wound of entry was thin and bulging. While the patient was resting from his railway ride, in order to be in the best condition for the proposed operation, the cicatrix gave way, and the blood burst forth. Dr. Roberts, apprehending the possibility of this untoward event, had ordered the patient closely watched, leaving directions that he be sent for instantly should hemorrhage occur. Toward midday Sunday the hemorrhage came, and a messenger was at once dispatched to Dr. Roberts's house, but he was absent. The doctor's wife at once telephoned him at his office, more than a mile from his house, but quite near the infirmary. In a few moments he was at the bedside of the bleeding man, and with the clever assistance of Drs. Holloway and Coomes, who fortunately were near at hand, he cut down on and ligated the femoral artery at the seat of the wound, which was at the upper end of Hunter's

canal. We hope at an early day to publish a full history of the operation.—Louisville Med. News. Oct. 12, 1878.

SYPHILIS TREATED BY EXCISION OF THE PRIMARY INDURATION.

According to modern theories, neither the destruction of an indurated chancre by means of causties, nor its removal by the knife, is likely to prevent the development of constitutional symptoms. The latter method has, however, lately been tried by Professor Auspitz, of Vienna, and in a recent number of the Vierteljahrsschrift für Dermatologie und Syphilis, he gives an account of thirty three cases thus treated. He uses a pair of scissors for excising the ulcer with the surrounding induration, and forceps or a sharp hook for raising the affected parts. By means of a spray-producer, carbolic acid is applied to the wound during and after the operation, and if any remains of induration are discovered in the wound they are carefully removed. Sutures, if necessary, or strips of plaster, with carbolised wadding form the dressing, and the results obtained in the thirty-three cases may be thus summarised. (1) In four cases in which the induration supervened upon a soft sore the patients remained free from constitutional symptoms. (2) Although in nearly all the cases there was indolent enlargement of the lymphatic glands, on the most careful examination no other glands were found to be similarly affected. (3) Those cases in which after excision no fresh local induration occurred. remained as a rule free from syphilis. (4) Phagedæna, which sometimes followed the excision, did not prevent the development of constitutional symptoms. (5) The absence of constitutional symptoms in many cases where there was primary induration, shows that this latter is not to be regarded as evidence of constitutional infection, but rather as a primary depot from which the system becomes infected. The same reasoning applies to the indolent enlargement of the ingunial glands, which must be distinguished from the general swelling of the lymphatic glands in syphilitic dyscrasia. In nearly all the cases treated by excision, in which constitutional symptoms failed to appear, the ingunial glands were decidedly swollen. (6) The recrudescence of the infiltration in the wound caused by the excision in those cases in which constitutional symptoms occurred, and in those alone, is not to be regarded as evidence of the circulation of the poison in the system, but as the result of a local action of the infectious material still present, either because the excision has been imperfectly performed, or because of the wide-spread syphilitic changes which have taken place in the vessels. (7) Whether, in those cases in which constitutional symptoms result in spite of excision, the latter exercises any influence over the nature or duration of the subsequent manifestations, is a question which must be decided by further trials; in some cases the operation appeared o exercise a modifying influence. (8) Excision is to be recommended as a prophylactic measure under certain circumstances, which are as follows:—Shortness of the period during which the induration has existed; absence of complications other than indolent swelling of the ingunial glands; favourable situation of the sore as regards excision. In respect of this last condition, sores on the body of penis or prepuce are more favourably situated than those on the glans or sulcus coronarius.—(Medical Examiner, No. 113, 1878.)—Practitioner, May, 1878.

# A NEW METHOD OF PERMANENTLY REMOVING SURPERFLUOUS HAIRS.\*

BY L. DUNCAN BULKLEY, A. M., M. D.,

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In the following brief communication I wish to bring forward a method of permanently removing superfluous hairs, which I devised over two years ago, and which I have employed with a success which warrants me in announcing the method, that others may employ it as well.

It is well known that the ordinarily recommended depilatories have but a transient effect (except, perhaps, in very rare instances), and for the reason that they act only on that portion of the hair which is external to the follicle; or at the most they penetrate but a little distance into it, and necessarily cannot reach the bottom of the follicle, where the hair takes its origin. In the hope of giving relief to the deformity of hair upon exposed situations in females (who are often almost frantic from its presence) physicians as well as parents are frequently led to try, not only the depilatory remedies recommended in the books, but the various quack remedies, only to find that the effect of each is transitory, and that the hair reappears, causing even more distress than before.

I have long made trial of very many of these chemical measures for removing superfluous hair, both those of the books and those of the shops, and have so uniformly found them to fail in producing any permanent results that I have ceased to advise their use, except as palliatives, or as substitutes for shaving with the razor, or epilation, and I have repeatedly sent away patients who consulted me without being able to give them much if any encouragement as to permanent freedom from their disfigurement. Nor do recent authorities afford any more hope. The universal opinion is that the only relief is from the re-

<sup>\*</sup>This paper was written to be read at the second annual meeting of the American Dermatological Association, August 27, 1878, but the writer sailed to return from Europe in time to attend the meeting. Since it was written abstracts of the proceedings of this meeting have been published in the Boston Medical Journal and in the New York Medical Record, in which allusion was made to this method of treatment by Dr. Dubring, who had employed it at my suggestion. Mention was also made of other methods of treatment, including the electrolysis, but no results were stated.

peated removal of the offending hairs, either by continual epilation, or by the frequent use of a depilatory, or by shaving. All of these procedures tend to make the returning hairs larger and coarser, and consequently more objectionable. With some skins depilatory pastes act unpleasantly, by inflaming the surface, and they nearly always render it harsh, and more or less scaly.

Sometimes patients themselves attempt more radical measures, and the lady on whom I first used my method, indeed for whom I devised it, has a number of black spots on the chin, which are the result of her previous attempts to destroy the folliele by a needle heated in a lamp, the soot being deposited

in the skin, and forming an indelible tattoo.

Two or three physicians have recently mentioned to me a plan of destroying the hair follicles by means of electrolysis, inserting in it a needle attached to one pole of the battery, while the other pole touches the body at some different point. I am not aware that this method has been mentioned in print, nor do I know how successful or permanent the results have been. I have tried this in combination with my method, but did not find that any advantage was gained over that with the needle alone, while there was certainly more pain given, and the additional complication of a battery rendered the procedure somewhat more annoying.

My present method, as mentioned, was devised over two years ago at the urgent solicitation of a young lady who had been under my care some time, and had tried the various depilatories in vain, but who still was not willing to give up the undertaking. I have sluce that time employed it on four private patients, ladies, aged 23, 24, 25 and 30 years respectively; but as two of them were treated for surperfluous hair both on the chin and upper lip, we may fairly count them as six cases. The hair, then, in the six cases was located, three times on the upper lip, twice on the chin and once in the form of a large

hairy nævus on the right cheek.

The method to be described is founded upon the idea of reaching down into the follicle, after extracting the hair, and thoroughly breaking up its bottom and side, thereby exciting an inflammation which seals it from its base to its orifice. This is accomplished in the following way: A small three-sided, straight, surgical or glover's needle is firmly inserted at its blunt extremity in a convenient handle; the smaller the better. The one which I use was made for holding a needle to be employed in manipulating microscopic preparations. The edges of the needle should be sharp, and may require grinding even when new. A good pair of epilating forceps are also required; their edges should be well fitting, and such as will not cut the hair, and the spring should be rather weak, that it may not tire the hand unnecessarily.

The needle in its holder being taken in the right hand, as one

holds a pen, a hair is seized with the forceps in the left hand, and the point of the needle is engaged in the orifice by the side of the hair, before the latter is extracted. Gentle traction is then made upon the hair, and at the same time slight pressure upon the needle, and as the former slips out the latter readily enters the follicle for a little distance. It is then thrust in, to a little greater depth than that occupied by the hair, as shown by the root-sheaths on the extremity of the latter, and with a delicate touch it may be readily perceived when it has gone to the bottom, or rather when it has penetrated the latter a little, and its sides are closely embraced by the follicle. A little experience soon shows this, and the error can be made of not having the needle penetrate deep enough far more easily than that of going too deeply. A clean needle can do little if any harm even when piercing the entire thickness of the skin.

When the needle is fairly in the follicle, it is given a number of turns or twists, by rotating the handle between the thumb and forefinger, and when it is withdrawn the sharp edges of the needle are seen to be filled with epithelial debris scraped from the sides of the follicle, and very shortly after a drop of blood or serum is seen to issue from the orifice of the recently irritated follicle. Occasionally blood will follow immediately, and if it is not controlled, in considerable quantity, but this need never give trouble, for it is readily arrested by a firm pressure with the finger, with a little ordinary picked cotton or styptic cotton. I have considered it better when but a little blood followed the needle, or when only serum was observed after a few moments. because when there is a larger flow of blood it indicates rather that the needle has missed the follicle, and either gone one side of it, or penetrated its walls, and has failed to reach the bottom, where the new hair takes its origin; though of course it is quite possible to penetrate through the base of the follicle, and pierce a little artery below. In by far the larger number of insertions of the needle I do not draw any blood, but only observe the serum exuding soon after each puncture.

At first, in order to make sure of exciting inflammatory action, I dipped my needle in carbolic acid before each insertion. Latterly I have repeatedly omitted it. I am not quite prepared to say that some agent is not useful, though I believe that I have prevented the return of very many hairs without employing it. It certainly does excite much more inflammation, and the irritation from each operation lasts much longer with than without the carbolic acid. The burning pain for a few hours after its use is considerable, many-fold that left by the simple puncture without it; perhaps a weaker solution of carbolic or of chromic acid would answer. It certainly is an additional protection against doing injury by the operation, in the way of conveying poison on the needle. It might be well to bear in mind the possibility of "tattooing syphilis" by means of these punctures, if the needle by any means retained any blood from a previous

patient who had syphilis. The operation is not very painful. Ladies readily endure it. The surface may be dressed with a little weak zinc ointment or lotion, or lead and opium wash, if there is much irritation. There is no appreciable scar left when

all inflammatory action has subsided.

Though the procedure here described appears to be perfectly simple, it will require often no little tact and patience to carry it through successfully, to a complete removal of the deformity. When the operation is first tried it will be found that the needle by no means enters every follicle at which it is aimed. haps I am safe in saying that not fifty per cent. of the hairs removed at an operation will be permanently exterminated. In some instances a false opening will be made in the skin very close to the hair, and when the hair re-grows, and the attempt is made at it again, the needle will again slip into this false hole and this may be repeated more than twice. Again, often two or more hairs will be extracted by the forceps at one time, when only one of the follicles is or can be entered by the needle; or again, the needle may not have penetrated deep enough to destroy the base and the papilla, or the inflammation excited may not have been active enough to close the follicle.

Occasionally it will be found that the inflammation has sufficed to cause the external portion of the follicle to be obliterated, while the deeper portion where the hair is formed still remains intact, or nearly so. In this event a hair is reproduced, and not being able to gain exit, it will coil itself up, or it may run beneath the surface of the skin for a distance, and cannot be gotten at without a puncture of the overlying cuticle. In these cases it is often very difficult to reach and destroy the whole of

the follicle, but it can be accomplished with care.

One will be surprised at the number of hairs which exist upon any surface when they are called on to remove them one by one, a fact constantly observed when epilating for parasitic diseases, and much more patent when each follicle is to receive subsequent treatment. In entering upon this measure, therefore, the patient should be fully acquainted with the fact that patience will be required, and that the deformity is not removed in one, two or three sittings. It is difficult to treat much more than from twenty-five to forty hairs at a sitting; the eyes, c hands and nerves of the operator give out, and the patient is generally quite willing to have the operation cease. In the cases which I have mentioned I have operated in all together fifty-seven times, and, while all the patients are greatly benefitted, indeed the deformity largely removed, there are still a number of hairs, which reappear or develop anew, and which are still being treated. Two of the patients live out of town, and have been irregular in attendance. This development of

<sup>°</sup>I have used the unaided eye in making these operations, having tried in vain to find some method of magnifying the surface by leuses. Each attempt seemed rather to hinder than to assist.

new hairs, that is the growth of smaller into larger ones, must be ever borne in mind, for, of course, such a procedure as is here described cannot in any way hinder such an event.

In regard to the permanency of the results, this is demonstrated most satisfactorily in these patients. In the lady on whom it was first performed, nearly two years ago, the hairs remain absent. In the second case hairs which were removed nearly a year ago have not returned, and the other two cases, which were first treated six and four months ago, demonstrate the same.

Considering then the failure of depilatories, and the intense distress which these abnormal growths of hair often occasion, and the successful results in these cases, together with the correct principle on which the operation is based, it may, I think, be rightly presented to the profession as a safe and reliable method of permanently removing surperfluous hair.—Archives of Dermatology, October, 1878.

#### CONDENSED AND RAREFIED AIR.

By WILLIAM PORTER, M. D., of St. Louis.

The beneficial effect of a therapeutical agent can often be estimated by studying its physiological action. A remedy that is used only empyrically must necessarily fail in many instances, either from ignorance of its adaptability or on account of its improper application. For this cause, respiration of air of increased or diminished density is not as universally recommended by physicians as it should be. A consideration of the effect of these forces in the healthy subject may in some degree guide

us in applying them in disease.

It must first be remembered that condensed air and rarefied air are in many respects antagonistic in their action and in the indications for their use, and that they cannot be prescribed indiscriminately any more than we can advise the mountains of Colorado and the low level of the sea-coast for the same patient. It is not in every case in which both condensed and rarefied air may be used to advantage. It is somewhat natural for us to study in order (1) the physical changes produced by the inhalation of condensed air, then (2) the effects of expiring into condensed air and afterward (3) the inhalation of and (4) the expiration with rarefied air.

(1) a. One of the primary effects of inspiring air of increased density is to augment the vital capacity by direct pressure from within. This mechanical action reaches the remotest air vesicles, distending them in direct proportion to the amount of compression. Suppose that each lung is a pyramid 12 inches high and 3x6 inches at the base, we will have, excluding the lateral adjoining surfaces, the surface of the lungs in juxtaposition to the chest wall equal to 180 square inches. If 30 pounds be placed on the inner cylinder of a Waldenburg's apparatus 12

inches in diameter, the force exerted will be nearly one-fourth of a pound pressure to the square inch, and when applied to the 180 square inches, the approximate lung surface, equals a force of 45 pounds applied directly to the expansion of the chest. This pressure, easily borne by most adults, may be increased in time with some patients 50 or even 100 per cent., and affects the expansion of the chest most directly.

b. The inhalation of condensed air has a distinct action on pulmonary circulation. If we approximate the surface of the bronchial tubes and air vesicles to aggregate a square of three feet (a low estimate) and apply to this the force above mentioned—one fourth of a pound to the square inch—there will be an actual force exerted in all directions in the lungs of 324 pounds. This pressure on the veins ramifying on the bronchial mucous membrane and on the intra-vesicular plexus, hastens the out-going blood, and, by supporting distended vessels, is an aid to a freer circulation in the lungs.

c. From the preceding facts the influence of this agent upon the heart's action may be understood. The pressure on the pulmonary venous system causes the blood to be passed rapidly to the left side of the heart. The arteries of the general circulation are distended and the pulse becomes hard, full, and in a short time slower.

d. During the inhalation of condensed air, the blood absorbs more than the ordinary amount of oxygen, for the law of Henry and Dalton applies, viz: "that the volume of gas absorbed by a liquid depends upon the pressure under which the gas above it remains after the absorption has been completed," and in the case of mixed gases the proportion is determined by the tension of each individual gas. On the other hand, however, the elimination of carbonic acid gas is retarded, for as gases are diffusable in an inverse ratio to the square of their densities, the quantity of carbonic acid gas passing from the blood in the air cells depends upon the tension of the atmosphere in these cells.

(2). Expiration into condensed air requiring unusual efforts of the muscles of inspiration tends to strengthen them. The effect upon the circulation and the interchange of gases are of the same character as result when condensed air is inhaled.

The main physiological effects, therefore, produced by the respiration of condensed air, which may have a therapeutical value are, increase of vital capacity, strengthening of the muscles of expiration, diminution of the amount of blood in the lungs, increased pressure in the general arterial system, increased aeration of the blood, yet possibly an accumulation of carbonic acid at the same time. When patients are placed in a chamber of condensed air the respiration is impeded and a sense of weight felt in the chest.\* The pressure on the surface

<sup>\*</sup> Bauer, Bridge Cases, St. Louis Medical and Surgical Journal, 1870; Jaminet, Physiological Effect of Compressed Air, 1871.

of the body being increased we have this phenomenon. The blood is forced into the left side of the heart as when the condensed air is respired, but opposed to this is the pressure on the greater surface of the body; the circulation in fact is carried on in a denser medium, requires more heart force, and this not being readily furnished at first, the pulse becomes less in volume and force and more frequent. After remaining in the air chamber for awhile the heart action may become more natural. I believe that in many instances there may be positive injury done from the accumulation of carbonic acid in the blood, the elimination of which is seriously interfered with under these circumstances according to the physiological rule mentioned.

(3). The inhalation of rarefied air has in many ways an opposite effect from that produced by condensed air; (a) the muscles of inspiration are strengthened inasmuch as the atmospheric pressure in the lungs is lessened, while that on the surface of the chest remains the same; (b) there is a greater determination of blood to the lungs from relaxation of the tension in the tubes and air vesicles; (c) the heart action becomes more soft, gentle, and sometimes more rapid, because the pressure of the blood passing from the lungs through the left heart is diminished; (d) elimination of carbonic acid gas is favored on account of the diminished density and tension of the inspired

air, in accordance with the laws already mentioned. This is one of the factors, no doubt, which makes altitude a deside-

ratum in many cases of phthisis.

(4). Exhalation into rarefied air causes the lung to contract to a degree corresponding to the amount of rarefaction, and thus increase the working capacity by diminishing the amount of residual air. By this and the rapid elimination of the carbonic acid gas additional activity and power is shown in the respiratory function. The effect upon the circulation is much the same as that produced by the inhalation of rarefied air. It follows that an agent having so much physiological force must have therapentical value when rightly applied. There are several conditions in which the pneumatic apparatus may be used with good effect, and often as a powerful adjuvant to

medicine proper.

I. All physicians practically recognize the pre-tubercular condition, though unfortunately recognition is not always followed by the urgent care needed. In young persons with a strumous taint, fickle appetite, anemia, a tendency to bronchial irritation, who have flat and it may be narrow chests and limited respiratory movement, it is more than possible that phthisis will sooner or later be developed, especially in those of sedentary habits who are disinclined to out-door exercise. The lungs do not expand sufficiently, there is imperfect aërfication of blood and many of the products are retained; mal-assimilation of food follows, the formative material loses its

vitality, and this deposited in portions of the lung in which movement is feeble and to which the air does not penetrate, as

at the apices, ushers in the pulmonary disease.

The direction in all of these cases must be in the way of nutrition, but this cannot be pursued to advantage so long as the blood is imperfectly oxygenated, which can be effected only when the air penetrates the entire lung. If any portion is cut off from the ingress of the air, the blood sent to that part returns to the general circulation, carrying with it not the much needed oxygen, but carbonic acid and other products of waste. Here the use of the pneumatic apparatus adds much to the time honored treatment of tonics and nutrients. I know more than one instance where a patient has not been able to take cod-liver oil until an increase in the vital capacity and an increased supply of oxgen has created a demand for such food.

The direct effect of the inhalation of condensed air in these cases is to increase the vital capacity by direct pressure from within. The amount of pressure at first must be small—not more than one-fifth of a pound to the square inch. Great harm may be and is undoubtedly done by using too much force, for nothing should be more guarded against than rude measures with a lung, some portion of which may be weak and comparatively inactive, for the air penetrates with more or less dilating power to every accessible part. The pressure may be gradually increased to twice or three times the original amount, or even

more.

A greater amount of oxygen is furnished to the blood (Sec. 1) a) and this meets an indication almost always present in early phthisis. For this reason a man who has been respiring condensed air can afterwards suspend respiration for a much longer time than he otherwise could, as has been noted in the experience of deep-sea divers. (Brunel.) In these cases the inhalation of condensed air may also be interchanged with the use of rarefied air, as this also increases the vital capacity which is the

main indication to be fulfilled.

Where phthisis is advanced to such a degree that the evidences of deposits are unmistakable in the lung, it is unlikely that the use of condensed air can be attended with good result, for obvious reasons. On the contrary, rarefied air may often be used effectively (a) by calling into action and increasing the force of the auxiliary muscles of inspiration, (b) diminishing the abnormal amount of residual air in parts of the lung comparatively unaffected, (c) favoring expectoration, (d) favoring the elimination of carbonic acid gas, (e) reducing the force of the pulse and (f) inviting a full and free supply of blood to the lungs, this latter result being a factor in the process of nutrition, but not necessarily a pathological condition, as in inflammation, is important. The process of cheesy metamorphosis is characterized by a gradual cutting off of the circulation in the infiltrated mass, a consequent absorption of its

watery constituents. So long as the blood supply is copious, not only is the change retarded, but the obvious effects of local nutrition are often seen in the lung. This is one of the benefits patients often derive in high altitudes. It is well known that patients with mitral disease of the heart rarely, if ever, become victims of phthisis, and I believe it may be accounted for by the increased amount of blood in the lung preventing dry metamorphosis. I have notes of one case of infiltration at the left apex, in which, subsequently to a severe attack of rheumatism resulting in mitral insufficiency, the pulmonary disease was stayed and eventually disappeared. From these premises it is fair to conclude theoretically what has been practically proven, that the continued use of rarefied air is indicated in many cases of pronounced or threatened phthisis. We must except, however, those cases having increased bronchial secretion, on account of the increased dilatation of the vessels of the mucous membrane which removal of part of the atmospheric

pressure may increase.

III. In the treatment of asthma, condensed air has been much used, and, doubtless, much abused. The essential element of asthma is found in spasm of the smaller bronchi, though Wintrich and others hold that it depends on tonic sp: smodic contraction of the diaphragm. It is associated with bronchial fluxion, though, in some cases, the congestion cannot be pointed out on account of the absence of bronchial secretion. Storck has shown by tracheaoscopic examination, that bronchial congestion may exist where the physical signs of it are absent. That upon which the bronchial spasm depends, may be direct irritation of the vagus, reflex from the stomach, uterus, pharynx, etc., or it may depend on specific causes, as the inhalation of certain animal or vegetable emanations, or on hamic conditions, when the blood contains irritating qualities, as in gout or Bright's disease. The latter condition, I believe, often causes a spasmodic contraction of the pulmonary arterioles—so that it is a want of blood, rather than of oxygen, in the lungs, that causes the distress. In these cases, many of the physical signs of asthma are wanting.

From whatever cause asthma is produced, excepting, possibly, the last named one, there is tumefaction of the bronchial mucous membrane (such, for instance, as may occur in the nasal passages, from acute irritation), and spasmodic contraction of the bronchial muscles. While the larger bronchi have cartilages to keep them open, the smaller tubes have only muscular structure. Gratolet and Reisseissen have found muscular fibres around tubes of less than a line in diameter, Rindfleisch demonstrated their sphincter form where the bronchioles merge into the infundibula, and William has shown the contractibility of these fibres under electrical and chemical stimuli. Bert, Traube and others, have proven that respiration can be arrested by irritation of the pneumogastric and laryngeal

nerves, and Valentine and Volkmann, by irritation of these nerves, produced apposition of the cartilaginous rings in the bronchi. The little muscles, which guard the entrance to 600,000,000 air cells (Rochoux), are unitedly, more powerful than the indirect force of the muscles of inspiration. If, then, without further discussion, we grant that to which the weight of authority testifies, viz: the existence, as prominent factors in asthma, both bronchial fluxion and muscular spasomdic contraction, we naturally conclude that one of the first things to be done is to relieve the engorgement of the mucous membrane, and overcome the bronchial spasm, and it is to meet these indications that condensed air is used.

It is always necessary first to find the cause of the asthmatical condition. The source of reflex irritability must be removed; irritating matter in the blood must be eliminated, if possible, and proper medication employed where the disease is purely bronchial. Then, but not before, condensed air may be employed. A case in point is that of a gentleman of this city, who used the pneumatic apparatus for asthma, under the direction of a most careful physician, but without effect, until some months after, when several large nasal polypi were removed; then, by the use of the condensed air, his disease disappeared.

After the first inhalation of condensed air in asthma, unless the pressure is exceedingly light, the symptoms are usually aggravated, and some perseverance is needed before there is much amelioration. The first subjective evidence of benefit, is a shortening of the time required for the respiratory act, which becomes more nearly normal, and a relief from the sense of chest constriction; on auscultation the vesicular murmur will be found to be stronger, and the sibilent râles and ronchi will gradually disappear. In some of these cases where the expiration is greatly hindered and there is emphysema, I have, at first, had the patient to expire into rarefied air, thus rendering the expiration more full; and again, after using the condensed air for a few minutes, returned to the rarefied, so that the lungs might be freed from as much residual air as possible.

The method of inhalation is important. Beginning with light pressure and a few respirations, for it is of much moment not to excite muscular contraction, the pressure may be increased, and the time of inhalation lengthend. To obtain the full effects of the air a pause of from five to ten seconds should be made after respiration, before the expiratory act begins. After the patient is accustomed to the light weight, forty pounds may be placed on the Waldenburg apparatus, equal to about one-half pound pressure to the square inch, and the patient may inhale, at short intervals, the air thus condensed, for from twenty to thirty minutes, once or twice daily. The frequency and length of the exercise must depend upon the indications in each caes.

IV. Pulmonary emphysema often accompanies asthma, and has much in common with it. Very briefly we may note that

there is deficient expiration, that this may depend on an interference to the egress of air and violent muscular compression of the chest wall, on lesions of nutrition by which the pulmonary parenchyma suffers textural changes especially in old age, or there may a part of the lung become impermeable to air, necessitating vicarious action on and undue distension of other parts, and from each of these causes or all combined, we may have atrophy, distention and finally rupture of the alveolar Not only is the power of expiration thus limited, and the amount of residual air increased, but this destruction of the alveolar walls where the interchanges of gasses is affected, or there may be only an obliteration of the blood vessels on the walls. The result is that the oxygen supply is diminished and elimination of carbonic acid gas retarded. The disturbance of the pulmonary circulation, in many cases reflected through the pulmonary artery, causes hypertrophy of the right ventricle; following this and the incomplete decarbonization of the blood, we have mal-nutrition (Hertz) and diminished specific gravity of the body (Walshe.) It is searcely necessary to mention the physical symptoms and diagnosis of emphysema here.

If then the conditions resulting from emphysema are loss of expiratory power, increase of residual air, retarded elimination of carbonic acid gas, and disturbance of pulmonary circulation, we can reasonably expect benefit from the use of the pneumatic apparatus. It may not, however, be used indiscriminately. Where there is much bronchial complication in open and pulmonary engorgement, condensed air to a limited extent, for reasons already given, is indicated, but it must not be pushed too far, for the air cells are already dis: tended and unduly filled with air. In such cases condensed and rarefied air may be used alternately, and the rarefied air last, so as to empty the air cells as far as possible. Where bronchial complications are not marked, the best results may be obtained by rarefied air alone. Often after the first exercise the patient is somewhat relieved and the respirations become longer and more free. As many of the vessels are merely distended and not as yet ruptured, it is quite possible that their functional activity may be restored by removing the tension of contained air and assisting the nutrition by encouraging a better blood supply. The less dense air does much also in enabling a better elimination of carbonic acid gas. extreme cases of emphysema, no agent that I have knowledge of is so quickly efficacious as is rarefied air.

In accordance with facts already stated, we may assert that the pneumatic apparatus may also be used with benefit in bronchitis, atelectasis, and in some forms of heart disease, such as dilatation of the right ventricle and mitral insufficiency. The result of treatment warrants this assertion, though in cardiac complications this measure is, as all others are, palliative. However, the use of condensed and rarefied air, when employed in accordance with known physiological laws, is a safe and efficient aid to medicinal remedies in many troublesome pulmonary complications, some of which have been enumerated.

500 NORTH 14TH STREET.

-St. Louis Medical and Surgical Journal, October, 1878.

#### OFFICE SURGEON GENERAL, U. S. M. H. S., Washington.

Abstract of Sanitary Reports received under the National Quarantine Act:

#### No. 12, September, 28th 1878.

New Orleans.—During week ended yesterday evening there were 926 cases of yellow fever and 332 deaths. For the last twenty-four hours there were 124 cases and 51 deaths. Total cases 8464, deaths 2700.

South Pass, La.—There had occurred to the 26th inst., 42

cases of yellow fever and 2 deaths.

Morgan City, La.—For the week ended yesterday evening there were 79 cases of yellow fever and 12 deaths. Total cases 145, deaths 30.

Baton Rouge, La.—From September 20th, to 9 A. M., the 26th, there were 221 cases of yellow fever and 7 deaths. Total

cases 893, deaths 46.

Plaquemine, La.—During the week ended September 15th there were 16 deaths from yellow fever. 130 cases were still under treatment. The first case occurred August 1st. Total cases to September 15th, 305, deaths 53.

Pass Christian, Miss.—12 cases of yellow fever and 2 deaths occurred during the week ended yesterday evening. Total

cases 33, deaths 3.

Biloxi, Miss.—There were 5 cases of yellow fever and 1 death

during the last week. Total cases 25, deaths 8.

Ocean Springs, Miss.—During the week ended yesterday evening 9 cases of yellow fever occurred and 5 deaths, Total cases 60, deaths 17.

Mississippi City, Miss.—8 cases of yellow fever and 1 death

occurred last week.

Bay St. Louis, Miss.—There were 53 cases of yellow fever and 15 deaths during the week ended yesterday evening. Total cases 78, deaths 20

Water Valley, Miss.—During the eight days ended September 21st there were 18 cases of yellow fever and 5 deaths. To-

tal cases to that date 21, deaths 7.

Vicksburg.—58 deaths from yellow fever during the week ended yesterday evening, 14 of which occurred in the last

twenty-four hours. Total deaths to date 779. Assistant-Surgeon Keyes reports "epidemic over, save a few sporadic cases."

Greenville, Miss.—Out of a remaining population of four hundred and fifty, 227 have died of yellow fever. 60 persons are now sick with the fever, mostly convalescent, and "material for new cases exhausted."

Grenada.—Since last report there have been 10 new cases and three deaths. Total deaths to yesterday evening 274.

Port Gibson. Miss.: - Total cases of yellow fever to last

evening 620. Total deaths 110.

Memphis. - Deaths from yellow fever for the week ended

September 26th, 297. Total deaths 2428.

Brownsville. Tenn.—During the week ended yesterday evening 67 cases of yellow fever and 22 deaths have occurred. Total cases 197, deaths 66.

St. Louis. - During the past week, four deaths from yellow fever at quarantine. None in the city. Only two cases now under treatment at quarantine,

Cairo, Ill.—During the last week there were two cases of yellow fever, one of them a refugee. Total cases 14, and 6

deaths.

Louisville, Ky.-18 cases and 10 deaths from yellow fever occurred during the week ended September 27th. 9 cases and 5 deaths were among the inhabitants living within two or three squares of the Louisville and Nashville depot, where some unclaimed baggage of refugees had been stored. The first case among the inhabitants occurred September 23d. Total cases 95, death 36.

Cincinnati.—No new cases nor deaths from yellow fever

within the last week.

Gallipolis, Ohio. Since last report to September 24th. 3 new cases of yellow fever and 5 deaths occurred. 2 of the new cases are not traceable to the steamer "Porter." Total number of cases 31, total deaths, including the 6 on the "Porter."

Chattanooga, Tenn.—A refugee was taken with yellow fever August 21st and another Sept. 6th. The first case among the inhabitants occurred September 18th. Total cases to last evening 41, deaths 26.

Mobile, Ala.—From September 20th, to the evening of the 24th, there were reported to the Board of Health as vellow

fever, 11 cases and 7 deaths,

Key West, Fla.—No new cases of yellow fever the past week.

One refugee died of yellow fever in Dayton, Ohio, September 21st. One case of yellow fever occurred in Philadelphia and one in Richmond, during the same week; both were refugees from the South. Yellow fever prevails in a number of small towns in Louisiana, Mississippi, Tennessee and Kentucky from which definite information of the number of cases and deaths

has not been received. The fever is reported as spreading to the plantations.

Havana, Cuba.—For the week ended September 21st, there

were 31 deaths from yellow fever, and 9 from small-pox.

Rio de Janerio.—From 14 to 22 deaths from small-pox occur

daily. No other contagious disease prevails.

Morocco, Africa.—Advices from Fez and Mequinez, to Aug. 24th, are to the effect that the cholera is decreasing. Smallpox prevails in the parts of Magador and Saffi. In the latter port about 15 deaths occur daily from that disease.

Calcutta.—10 deaths from cholera and 17 from small-pox,

week ended July 27th,

Bombay.—32 deaths from cholera, week ended Aug. 6th.

No. 13, October 5, 1878.

New Orleans.—During the past week there were 1754 cases of yellow fever and 360 deaths. Total cases to yesterday afternoon 10,218, total deaths 3,060.

South-West Pass, La.—5 deaths from yellow fever occurred

during the past week,

Morgan City, La.—For the week ended yesterday evening there were 155 new cases of yellow fever and 18 deaths. Total cases 300, deaths 48.

Buton Rouge, La .-- During the week ended 9 o'clock yesterday morning there were 524 new cases of yellow fever and 32

deaths. Total cases 1417, deaths 78.

Plaquemine, La.—242 cases of yellow fever and 10 deaths occurred during the week ended September 21st. Total cases to that date 547, deaths 63.

Pass Christian, Miss.—There were 26 cases of yellow fever

and 3 deaths, during last week. Total cases 59, deaths 6.

Mississippi City, Miss.—12 cases of yellow fever and 2 deaths occurred last week. Total cases to yesterday evening 20, deaths 3.

Canton, Miss.—Total cases of yellow fever to the 4th inst, 720; Total deaths 113. Dr. Semmes reports fever milder and material nearly exhausted.

Ocean Springs, Miss.—There were 18 cases of yellow fever and 4 deaths, during the week ended yesterday. Total cases 78, deaths 22.

Pascagoula, Miss.—One death from yellow fever at quaran-

tine last week.

Mobile, Ala.—For the week ended yesterday evening there were 11 cases of yellow fever and 6 deaths. Total cases 30. deaths 17. Dr. Cochran reports yellow fever at Bonsecour and Fish river.

Vicksburg, Miss.-There were 70 deaths from yellow fever during the week ended yesterday evening. Total deaths 849.

Memphis, Tenn.—199 deaths from yellow fever occurred during the week ended the 3d inst. Total deaths to that date 2627.

Brownsville, Tenn.—During the past week there were 77 cases of yellow fever and 20 deaths. Total cases to yesterday evening 274, deaths 86.

Grand Junction, Tenn.—The first case of yellow fever (refugee) occurred August 12th. Total cases to yesterday

evening 120, deaths 52.

Chattanooga, Tenn.—43 cases of yellow fever and 18 deaths for the week ended yesterday evening. Total cases 84, deaths 44.

Louisville, Ky.—During the week ended yesterday evening there were 7 cases of yellow fever and 5 deaths. Of these, 5 cases and three deaths were among the inhabitants residing near the Louisville and Nashville depot. No alarm exists, as it is believed there that the fever will not spread beyond its present narrow limits. The small number of cases appear to warrant that belief. Total cases to date 102, mostly refugees, as previously reported. Total deaths 41.

Nashville, Tenn.-6 deaths from yellow fever to yesterday

evening, all refugees.

St. Louis, Mo.—2 deaths from yellow fever at quarantine since last report. None in the city. Total deaths at quarantine and city 41.

Cairo, Ill.—3 cases of yellow fever and one death since October 2d. Information covering the first part of last week not definite enough to state here.

Cincinnati, Ohio.—From September 28th to October 2d, there

were 2 cases of yellow fever, one a refugee, and 1 death.

Grenada, Miss.—18 cases of yellow fever under treatment.

Number of deaths not definitely ascertained.

Water Valley, Miss.—For the week ended September 28th there were 18 cases of yellow fever and 10 deaths. Total cases to that date 39, deaths 17.

Key West, Fla.-No cases of yellow fever or deaths from

September 21st to October 4th.

Havana, Cuba.—36 deaths from yellow fever and 6 from

small-pox for the week ended September 28th.

The British iron steamship "Ben Vairlish" from New Orleans, September 20th, bound for Rotterdam, put in to the Norfolk quarantine October 14, leaking badly, having been on the Florida reefs 36 hours. One death from yellow fever occurred en route, and there were 3 cases on arrival at quarantine, two of which were convalescent.

St. Thomas, West Indies.—Advices to September 24th report 2 cases of yellow fever in that city, one resulted in death September 23d. Advices from Gibralter to September 10th bring

favorable reports from

Morocco, where cholera has prevailed in the cities of Fez and Mequinez. The Governor of Malta has ordered that vessels arriving from Morocco without passengers be quarantined twenty-one days. Vessels with passengers among whom chol-

era or choleraic diarrhœa has occurred are not allowed to enter the harbor.

Calcutta.—11 deaths from cholera, week ended August 3d.

Bombay.—31 deaths from cholera, week ended August 13th. There are many places in Louisiaua, Mississippi and Tennessee where the yellow fever prevails, but they are not named in this bulletin for the reason that definite and reliable information of the number of cases and deaths could not be obtained.

No. 14, October 12th, 1878.

New Orleans, La.—There were 988 cases of yellow fever and 340 deaths during the week ended yesterday afternoon. For the last 24 hours, 164 cases and 49 deaths. The disease now prevails throughout the city. Total cases 11,205, total deaths 3,400.

Port Eads, La.—One death from yellow fever occurred in

the past week.

Baton Rouge, La.—397 cases of yellow fever and 35 deaths for the week ended 9 A. M. yesterday. Total cases 1869, deaths 113.

Morgan City, La.—During the week ended yesterday there were 128 cases of yellow fever and 23 deaths. Total cases 428,

deaths 71.

Ocean Springs, Miss.—25 new cases of yellow fever and 6 deaths for the week ended at noon yesterday. Total cases 103, deaths 28.

Pass Christian, Miss.—For the past week there were 35 cases

of yellow fever and 3 deaths. Total cases 94, deaths 9.

Bay St. Louis, Miss.—During the past two weeks ended yesterday evening there were 208 cases of yellow fever and 36 deaths. Total cases 286, deaths 56.

Biloxi, Miss.—From commencement of outbreak of yellow fever, to the 11th inst. there have been 275 cases and 23

deaths.

Port Gibson, Miss.—The yellow fever has spread into the country; at least thirty plantations surrounding Port Gibson are now intected. The deaths to date are estimated at 199.

Friar's Point, Miss. -- There bave been 13 cases of yellow

fever and 4 deaths to yesterday evening.

Crystal Springs, Miss.—Total cases of yellow fever to yester-day evening 81, deaths 36. The fever first appeared at Dry Grove neighborhood, 12 miles N. W. of Crystal Springs.

Hernando, Miss.—The first case of yellow fever—a refugee from Memphis occurred August 31st. 23 cases and 10 deaths during the past week. Total cases to yesterday evening 83, deaths 33.

Grenada, Miss.—6 cases of yellow fever and 2 deaths for the past week. Corrected total deaths to yesterday evening 323.

Spring IIill, Grenada Co., Miss.—15 cases of yellow fever and 6 deaths to yesterday. First case October 1st.

Vicksburg, Miss.—For the past week there were 33 deaths from yellow fever. 96 deaths have occurred in Warren county outside of Vicksburg. Total deaths in city and county 978.

Holly Springs. Miss.—Total cases of yellow fever to October

8th, 1064. Total deaths to that date 241.

Jackson, Miss.—Between 30 and 10 cases of yellow fever re-

ported to October 5th.

Memphis, Tenn.—There were 157 deaths from yellow fever for the week ended the evening of the 10th inst. Total deaths 2784.

Brownsville, Tenn.—139 cases of yellow fever and 35 deaths for the week ending yesterday afternoon. Total cases 413,

deaths 121.

Paris, Tenn.—The first case of yellow fever among the inhabitants occurred September 6th. The first case among refugees, August 23d. Total cases to yesterday evening 52, deaths 22.

Cairo, Ills.—Total cases of yellow fever to yesterday evening 31, besides 5 doubtful cases. Total deaths 25. Assistant Surgeon Waldo of the Marine Hospital Service, taken sick on Thursday, probably with yellow fever.

St. Louis, Mo.—No cases of yellow fever in the city. 3 deaths at quarantine during the past week, 2 of which were refugees. The superintendant of the quarantine station is sick with the

yellow fever.

Louisrille. Ky.—For the week ended yesterday evening there were 10 new cases of yellow fever and 8 deaths, of which numbers 9 cases and 7 deaths were among the inhabitants residing in the infected portion of the city referred to in previous reports. Total cases 112, deaths 49, of these 88 cases and 34 deaths were refugees.

Cincinnati, Onio.—No new cases or deaths have occurred since

last report up to the 9th inst,

Mobile, Ala.—There were 7 cases of yellow fever and 3 deaths since noon of October 4th to the 11 inst. Total cases 37, deaths 20.

Decatur, Ala.—The first case of yellow fever occurred September 7th. Total cases to yesterday evening 82, total deaths 15.

Key West, Fla.—Two cases of yellow fever occurred this week, the first since the 21st of September. Total cases 37, deaths 16.

Canton, Miss.—From October 4th to October 10th there were 90 new cases of yellow fever and 26 deaths. Total cases to that date 810, deaths 139.

Harana, Cuba.—26 deaths from yellow fever and 3 from

small-pox, week ended October 5th.

No report received from the following places where yellow fever exists: Greenville, Miss., Mississippi City, Miss., Water Valley, Miss., Chattanooga, Tenn., Grand Junction, Tenn.,

Hickman Ky., South Pass, La., Plaquemine, La., etc.

South America.—At Rio de Janeiro, there were 3 deaths from yellow fever and 24 from small-pox during the week ended September 19th. Good health prevails in Barranquilla, New

Grenada. Advices September 19th.

Europe.—In 132 cities and towns of the German Empire, having an aggregate population of 7,376,861, there were 3,787 deaths from all causes for the week ended September 23d, being an annual rate of mortality of 26.7 per 1000 of the population. Among the deaths reported there were: 104 from scarlet fever, 1 from typhus, 104 from diphtheria and croup, and none from small-pox. At Vienna, Austria, during the week ended September 14th, there were 12 deaths from small-pox, 2 from typhus, 3 from scarlet fever, and 12 from diphtheria.

Africa.—A dispatch from the U. S. Consulate at Gibraltar, September 23d, states that private advices from Tangier announce 103 deaths from cholera at Casablanca, Morocco, on the 17th of September; Moors, Jews and Christians being attacked by the disease. At Fez, the cholera is reported as increasing. Cholera has broken out in several other places in the interior of Morocco. At Mogade, Morocco, the deaths from hunger and typhus are reported to be from 50 to 70 per day. The hungry Moors attacked the Customhouse and British and Spanish Consulates at that place and were repulsed with loss.

Asia.—31 deaths from cholera in Bombay, week ended Aug. 20th. No deaths from cholera in Calcutta for week ended Aug. 10th.

## No. 15. October 19th, 1878.

New Orleans, La.—During the week ended yesterday afternoon there were 976 cases of yellow fever and 255 deaths, of which eighty-nine cases and thirty-six deaths occurred in the last twenty-four hours repeated. Total cases 12,182, deaths 3635.

No cases of yellow fever at Port Eads or South West Pass

during the past week.

Morgan City, La.—There were 16 deaths from yellow fever during the last week. The number of cases was incorrectly given for the last report. Total cases to date reported to be about 432, total deaths 87.

Mobile, Ala.—For the week ended yesterday noon there were 56 cases of yellow fever and 12 deaths. Total cases 93,

deaths 32.

Decatur, Ala.—73 cases of yellow fever and 12 deaths during the week ended yesterday. Total cases 155, deaths 27.

Ocean Springs, Miss.—During the week ended yesterday noon there were 25 cases of yellow fever and 1 death. Total cases 128, deaths 29.

Pass Christian, Miss.—There were 32 new cases of yellow

fever and 4 deaths for the week ended yesterday. Total cases 126, deaths 13.

Bay St. Louis, Miss.—During the week ended yesterday evening there were 52 cases of yellow fever and 12 deaths. Total cases 338, deaths 68. The fever is on the decrease for want of material. The cases occurring now are more malignant.

Friar's Point, Miss.—8 cases of yellow fever and 2 deaths during the week ended yesterday evening. Total cases 21,

deaths 6.

Crystal Springs, Miss.—The yellow fever confined principally to the country around Dry Grove and Lebanon Church. No case has yet occurred within the limits of the village of Crystal Springs. During the past week there were 31 cases and 8 deaths. Total cases 112, deaths 44.

Baton Rouge, La.—During the week ended yesterday at 9, A. M. there were 301 cases of yellow fever and 16 deaths.

Total cases 2,170, deaths 129.

Pascagoula, Miss.—Total cases of yellow fever at quarantine,

to October 12th, 5, deaths 2.

Scranton, Miss.—Total cases of yellow fever to October 12th, 5, deaths 3.

Vicksburg, Miss.—For the past week there were 32 deaths from yellow fever in the city, and 64 in the county of Warren, outside of the city. Total deaths in city and county 1,074.

Holly Springs, Miss.—Total number of cases of yellow fever to yesterday evening 1,117, deaths 285. About 200 cases under treatment. The fever is spreading into the surrounding country. A slight frost occurred in the night of October 16th.

Grenada, Miss.—For the week ended yesterday evening there were 4 new cases of yellow fever and 2 deaths. The fever is spreading into the country. In fourteen families containing 97 unacclimated persons there occurred 41 cases and 2 deaths during the past week. Total deaths in Grenada and adjacent country 327.

Bolton, Miss.—Total cases of yellow fever to yesterday evening 117, deaths 31. The first case occurred August 12th.

Hernando, Miss.—During the week ended yesterday evening there were 50 cases of yellow fever and 23 deaths. Several of the cases from one to three miles in the country. Total cases 133, deaths 56. A light frost was observed this morning.

Memphis, Tenn.—For the week ended the evening of the 17th inst. there were 108 deaths from yellow fever. Total deaths

2.892.

Dr. Thornton, in charge of the Marine Hospital Service at

Memphis, has the fever.

Chattanooga, Tenn.—101 new cases of yellow fever and 30 deaths for the week ended at 4 o'clock P. M. yesterday.

Paris, Tenn.-No cases of yellow fever or deaths for the week

ended yesterday afternoon. A frost has occurred and no

further trouble is expected.

Milan, Tenn.—The first case of yellow fever—a refugee—occurred August 26th. The first case among inhabitants October 12th. Total cases to yesterday 3, deaths 3.

Cairo, Ill.—No report of cases or deaths received. Assistant Surgeon Roswell Waldo, of the Marine Hospital Service,

died of the fever at his post yesterday.

St. Louis, Mo.-4 deaths from yellow fever at quarantine

during the past week.

Louisville, Ky.—For the week ended yesterday, there were 15 new cases of yellow fever, and 5 deaths. Of these numbers, 14 cases and 5 deaths are among the inhabitants in the locality before described. Total cases 127, deaths 54, of which 80 cases and 34 deaths were among refugees.

Key West, Fla.—No new cases of yellow fever during the week; one death occurred the 12th inst. Total cases 37,

deaths 17.

No reports received from the following places, where the yellow fever exists: Plaquemine, La.; Port Gibson, Miss.; Mississippi City, Miss.; Greenville, Miss.; Spring Hill, Miss.; Water Valley, Miss.; Biloxi, Miss.; Canton, Miss.; Brownsville, Tenn.; Grand Junction, Tenn.; Hickman, Ky., and Gallipolis, Ohio.

Harana, Cuba.—24 deaths from yellow fever, and one from small-pox for the week ended October 12th. The deaths from all causes for the months of April, May and June last, were 3,030, an increase of 989 deaths over the total for the same months of 1877. Of this increase, 535 deaths were from small-pox, 98 from yellow fever, and 130 from diarrhea. The deaths from yellow fever the past summer are recapitulated as follows: April 28, May 53, June 184, July 504, August 374, and September (to the 28th) 168, making a total of 1,311 deaths.

Matanzas, Cuba.—Official returns of the Board of Health for the months of June, July, August and September, show that during that period there were 279 cases of yellow fever, with 91 deaths. Cases are now rare and the fever has almost ceased.

Morocco, Africa.—Advices from Tangier, up to September 21st, report the prevalence of cholera, small-pox, and malignant fevers throughout the empire, except in the country fronting the Spanish coast. Small-pox prevails in every port except Tangier and Teteran. The deaths from cholera at Casabianca, a port of 5,000 inhabitants, were on the increase, and numbered 103 on the 17th of September. Hundreds have died in the interior from cholera, fevers and starvation, especially in the middle and southern provinces.

## No. 16. October 26th, 1878.

New Orleans.—During the week ended yesterday evening, there were 699 cases of yellow fever, and 229 deaths. Total cases 12,881, deaths 3,864.

Plaquemine. La.—Total cases of yellow fever to October 20th, 1,159, total deaths 125.

Baton Rouge, La.—For the past week there were 170 cases of yellow fever and 15 deaths. Total cases 2,340, deaths 144.

Morgan City, La.—There were 7 deaths from yellow fever during the past week. Total cases to date 510, deaths 94.

Port Hudson, La.—Report to October 20th, gives total cases of yellow fever 75, total deaths 10, including four resident physicians. The first case of the fever occurred September 9th, first death September 13th.

Mobile, Ala.—There were 71 new cases of yellow fever and 17 deaths during the week ended yesterday evening. Total cases

164, deaths 49.

Ocean Springs, Miss.—No deaths from yellow fever during the week ended at noon yesterday. There were 8 new cases in Ocean Springs and 9 cases in the country not previously reported. Total cases 145, deaths 29.

Pass Christian, Miss.—For the past week there were 44 cases of yellow fever and 5 deaths. Total cases 170, deaths 18.

Water Valley, Miss.—Total cases of yellow fever to yesterday

evening 146, total deaths 60. Six new cases yesterday.

Port Gibson, Miss,—The yellow fever has spread into the country. As near as could be ascertained about 30 deaths occurred in the past week. The colored people in the country repel the friendly aid offered them, for fear of having the yellow fever brought to them by nurses, while they are dying from it without knowing that it is yellow fever.

Port Hudson, La.—To October 13th, there had been 75 cases

of yellow fever and 18 deaths.

Germantown, Tenn.—The first case of yellow fever occurred August 20th. First case among inhabitants August 25th. Total cases to noon October 16th, 65, deaths 36.

Memphis, Tenn.—For the week ended the evening of the 24th inst., there were 50 deaths from yellow fever. Total deaths

2942.

Brownsville, Tenn.-During the week ended yesterday even-

ing there were 16 deaths. Total cases 560, deaths 152.

Chaltanooga, Tenn.—For the past week there were 80 cases of yellow fever and 23 deaths. Of these 51 cases and 9 deaths were among colored people.

St. Louis, Mo.—At quarantise during the past week 3 residents were admitted and died of yellow fever. One patient

previously reported also died of yellow fever.

Cairo, Ill.—For the two weeks ended yesterday evening there were 44 cases of yellow fever and 6 doubtful cases. Deaths for the same period, 16. Total cases, 75; deaths, 41.

Louiscille, Ky.—There were 4 new cases of yellow fever for the week ended yesterday evening, and 7 deaths. Total cases, 131; deaths, 61, including refugees. Cincinnati, Ohio.—No new cases of yellow fever during past

three weeks. One death reported for the past week.

Decatur, Ala.—During the week ended yesterday evening there were 23 new cases of yellow fever and 13 deaths. Total cases, 178; deaths, 40.

Biloxi, Miss.—Up to October 17th there were 295 cases of

yellow fever and 40 deaths.

Greenville, Miss.—To noon of Oct. 11th there were 301 deaths from yellow fever, 21 of which were in the country outside of Greenville. No cases of yellow fever or deaths during the past week at Port Eads, La., South West Pass, La., and Key West, Fla.

Havana, Cuba.—23 deaths from yellow fever and one from

small-pox for the week ended Oct. 19th.

Hernando, Miss.—During the week ended yesterday evening there were 32 cases of yellow fever and 7 deaths. Total cases 165, deaths 63.

Deaths from four preventable diseases reported for the week

ended Oct. 19.

Enteric Fever.—In Baltimore, 5 deaths; Boston, 2; Brooklyn,
2; Charleston, 3; Cleveland, 1; Philadelphia, 9; Richmond, 1.
Typhus Fever.—One death in Brooklyn.

Scarlet Fever.—In Baltimore, 6 deaths, Brooklyn, 5; Cincinnati, 14; Cleveland, 2; Philadelphia, 13; Richmond, 1.

Diphtheria.—In Baltimore, 6 deaths; Boston, 14; Brooklyn, 15; Charleston, 2; Cleveland, 13; New Haven, 5; Philadel-

phia, 13; Richmond, 2.

Great Britain.—During the week ended Oct. 5th there were 3,409 deaths in 23 large cities of the United Kingdom. The mortality was at the average rate of 21 annually per 1,000 of the population. In Brighton the rate was 14—the lowest; in Liverpool, 28—the highest. In the same cities, not including Edinburg, there occurred 11 deaths from small-pox; 161 from scarlet fver, and 33 from diphtheria.

Paris, France.—There were 30 deaths enteric fever during the week ending Oct. 3d. The annual rate of mortality per 1,000 of

the population, based on weekly mortality, was 22.5.

No deaths from cholera in Calcutta for the week ending Aug. 24th, and none in Bombay for the week ending Sept. 3d.

No reports received from the following places where yellow fever exists: Vicksburg, Miss.; Holly Springs, Miss.; Canton, Miss.; Grenada, Miss.; Bay St. Louis, Miss.; Friar's Point, Miss.; Mississippi City, Miss.; Spring Hill, Miss.; Crystal Springs, Miss.; Hickman, Ky.; Grand Junction, Tenn., Paris, Tenn.

JNO. M. WOODWORTH.
Surgeon General,
U. S. Marine Hospital Service.

# EDITORIAL.

# Calling Things by Their Right Names.

Correctly prepared and carefully digested statistics are important auxiliaries to scientific research, especially in the study of medical questions. But to make them of any value, in fact to prevent their becoming an actual delusion and snare, it is imperative to use the utmost accuracy in all details. The study of the great epidemic through which we have just past must largely depend on faithfully gathered statistics of cases and the mortality accruing therefrom. A superficial view of the subject might lead to the conclusion that the work is one of great simplicity and ease, but a little reflection will show that the data furnished must fail to afford results at all accurate or trustworthy. Having made the statement, we shall now proceed to offer an explanation.

The Board of Health have constantly been of the impression that a large proportion of cases never were reported to their office, and a few days ago made an appeal to physicians and the public to supply the deficiency. The result has been the addition of several thousand more cases to the list by physicians already; but, as regards the general public, no general response is made, or can probably be expected. There is reason to believe that thousands have recovered from vellow fever this year without medical attendance, and in many instances where people were able to pay for it, but could not obtain the services of the physician of their choice. Even supposing that people were willing to report such cases, there must have been a large number so slightly marked in severity as to render a diagnosis difficult even for a medical man and a matter of complete uncertainty to their friends. These imperfections in the record are unavoidable and prevent anything like an accurate estimate, without attaching blame to any parties.

There are other grounds for uncertainty, which have relation to medical practitioners and are far less excusable. It is greatly to be regretted that our practitioners cannot agree upon the important point of liability of natives of the city to vellow fever, for this fact alone seriously impairs the value of statistics derived from a medical source. Thus thousands of cases and many deaths have been withheld from the yellow fever roll and added to the lists of remittent, billious and pernicious fevers, congestion of the brain, &c. It is certainly curious to note how prevalent these latter diseases become among our creole population at the same time when yellow fever is epidemic among those who had not the good fortune to be born in New Orleaus, but we are not aware that the fact has ever been explained by advocates of the yellow fever immunity of natives. Besides, in the general desire of practitioners to present a favorable yellow fever record, there is a temptation to add to the real number of cases and subtract from the deaths. The latter point may be gained by borrowing the nomenclature of our creole practitioners; and, when a list of hundreds of cases, without specifying names and residences. is handed in, there is no way to correct mistakes or prevent frauds.

Therefore the earnest and praiseworthy efforts of the Board of Health to prepare accurate yellow fever statistics are quite sure to end in disappointment, and we shall be obliged to make an approximate estimate. The Howard Association will probably be able to furnish the best data, as they will know the number of cases and of deaths within the scope of their operations. The total number of deaths will also be known, as reported by physicians; but this may require revision, to make allowance for discrepancies in diagnosis, where natives were concerned. Then the result is simply a question in rule of three.

Candidly we believe that the solution of the difficulty must be effected in some such way, and clearly so because medicine is not an exact science. And so, for our disagreements, we lose the approval of the public, while our professional cousins, the preachers and lawyers, find gain in their disagreements, which fill society with "envy, hatred and all uncharitableness."

#### REVIEWS AND BOOK NOTICES.

Physics of the Infectious Diseases. Comprehending a Discussion of Certain Physical Phenomena in Connection with the Acute Infectious Diseases. By C. A. Logan, A. M., M. D., 12mo. pp. 212. Chicago: Jansen, McClurg & Co., 1878.

This work is the result of the author's observations on the physical geography and prevailing diseases of the western coast of South America, while he represented the United States Government at the republic of Chile. The book is divided into six parts, and subdivided into chapters, each part being devoted to a separate branch of the subject. The first part is introductory and of a general nature; the second treats of the "Physical Aspects of the Pacific Coast of South America;" the third, of its "Medical Aspects;" the fourth, of the "Physics of Specific Causation;" the fifth, of the "Therapeutics of Infectious Diseases;" and the sixth, of the "Question of Energy as Related to General Disorders." Parts second, third, and fourth, are the ones which chiefly convey the author's peculiar notions, and are of the greatest interest. They are the only ones which we have time and space to notice here.

The remarkable prevalence of earthquakes on that coast, and the equally marked non-prevalence of certain infectious diseases (yellow fever, scarlet fever, and measles), are regarded by Dr. Logan as correlative, and due to a common cause, viz: a peculiar electrical energy manifested in that part of the world. The coincidence of earthquakes, with extraordinary electrical phenomena, particularly the aurora australis, seems to him proof that the former are produced by the latter; while to our mind the converse appears the more reasonable view.

Electricity, heat, and light, are modes of molecular motion correlated to each other and to mechanical motion, or the motion of matter in the mass. The generally accepted theory of earthquakes, at present ascribes the cause to terrestrial gravitation, or condensation of the earth, by which its mass slowly moves towards its center. This motion is partially arrested by the resistance of matter to further condensation, and so molar motion is converted into molecular motion, manifested as heat and electricity. This reasoning seems to us more probable than

the author's, who ascribes earthquakes to electrical agency, without attempting to account for the origin of that agency.

Again, if earthquakes and the absence of these infectious diseases be correlated, we should certainly expect to find the same true in other parts of the world. But the West Indies, the birthplace and home of yellow fever, are terribly subjected to earthquake action, and are by no means exempt from scarlet fever and measles.

We are, therefore, not convinced by the author's arguments, that the infectious diseases are excluded from the Pacific coast of South America by peculiar electrical influences, but adhere to the long and well approved belief that they are carried and introduced in the track of human intercourse. The remoteness of that coast, and the small importance of its commercial interests, have prevented direct and frequent communication with the sources of these infections, and so have served to exclude them; though, as a matter of fact, yellow fever has prevailed at Callao and Lima in 1858 and 1868.

Some curious circumstances in relation to small-pox are related: "The inefficacy of vaccination and the non-protective power of one attack against another." The author ascribes them to some unexplained influence of climate; not supposing that the length of time required to transport the vaccine virus from cooler climes affects its activity, when refrigerated and protected from light.

The following, from page 133, exhibits the author's view upon bacteria, as the cause of disease:

"All of the foregoing considerations seem to justify the conclusion, that the bacterial hypothesis cannot be founded in truth, because, first: The germs believed to produce the infectious diseases are constantly present in the atmosphere, in non-epidemic, as well as in epidemic seasons; second: The non-transportable, endemic infectious diseases—those not personally communicable—of which the malarial fevers may be adduced as a type, prove, so far as one fact may prove a general law, that specific disease-poisons belong only to certain localities and conditions; and hence, third: Those infectious diseases capable of exotic transplantation into unindigenous sections of the globe, must be rendered so, through the fabrication of a virus by the affected system itself."

What proof, we would ask, has been adduced, that the germs

of infectious diseases are always present in the air? Why should the malarial fevers be regarded as a type governing all diseases produced by specific poisons, and proving that all are restricted in their range to "certain localities and conditions?, What proof is there that disease germs may not be reproduced outside the bodies of those suffering from their effects? Indeed, there is a large number of animal and vegetable poisons known to be so produced, as, for example, the virus of serpents and rabid dogs, and certain microscopic plants producing skin diseases.

A large number of points connected with various branches of science are briefly touched upon in this volume, and the views of the author are generally interesting, if not always correct. For want of time and space we have chosen to notice chiefly those on which we must disagree with him, leaving others for the unbiased judgment of the reader. On the whole, the book is quite readable for the general public, for whom it was evidently intended, but it cannot add much to the real and sound capital of medical science.

8. S. H.

A Guide to the Practical Examination of Urine. For the use of Physicians and Students. By James Tyson, M. D., Professor of General Pathology and Morbid Anatomy, in the University of Pennsylvania, etc., etc. Second edition, revised and improved, with illustrations. Philadelphia: Lindsey & Blakiston, 1878. pp. 172. Price \$1 25.

The second edition of this valuable little work is before us. The reputation of Prof. Tyson is sufficient guarantee of its thoroughness, and a careful examination has proved that it is essentially practical. The physician of to-day in his studies of disease places more value on the examination of the urine than did his predecessor, and with this work, having supplied himself with the simple labratory proposed, he can estimate the pathological condition of this important secretion. Convenient in size, substantially bound and clearly printed, we heartily recommend it.

The Physician's Visiting List for 1879. Twenty-eighth year of its publication; for 50 patients weekly. Lindsey & Blakiston, Philadelphia.

We welcome again this practical record book. Its popularity increases yearly and its conveniences compare favorably with

any other similar publication. Tastefully bound, conveniently arranged and compact in form, it presents the professional man with a complete record, comprising almanac, day book, account and memorandum book. Added to these conveniences will be found a list of poisons and their antidotes, Marshall Hall's ready method in Asphyxia and a table for calculating the period of utero-gestation.

It is an indispensable companion for the busy practitioner,

#### BOOKS AND PAMPHLETS RECEIVED.

- Medicine—The Present and Future. An Address Delivered to the Graduates of Evansville Medical College. Reprint from St. Louis Medical and Surgical Journal.
- Solution and Absorption of Medicine; or the Best Means of Securing the Good Effects of Medicines in the Cure of Disease. By J. W. Compton, M. D., Professor of Materia Medica and Therapeutics, Medical College—Evansville, Ind.
- Hepatic Abscess; with some Remarks on Dr. Hammond's Paper.
  By Walter Coles, M. D., of St. Louis, Mo. Reprint from
  St, Louis Medical and Surgical Journal.
- Report on Mal-Practice—A Paper read before the Maine Medical Association. By Eugene F. Sangor, A. M., M. D., of Bangor, Maine.
- Sub-Sulphate of Iron as an antiseptic in the Surgery of the Pelvis. By H. P. C. Wilson, M. D., Baltimore, Md. Reprint from the Gynæcological Transactions, Vol. II, 1878.
- Notes taken from a Lecture by Dr. Manuel Daguino, Medical University of Caracas, Capital of Venezuala, on the Treatment of Yellow Fever. Translated by Dr. Antonio De Tejada, of New York.
- Treatment of Strumous Disease—By what may be called the Solfatara Method. By Horatio R. Storer, M. D., Newport, R. I., President of the Gynæological Society of Boston.
- Transactions of the Minesota State Medical Society, 1878.
- Transactions of the Texas State Medical Association—Tenth Annual Session—Held in San Antonio, April 5, 1878.
- Annual Address, delivered before the American Academy of Medicine, at Easton, Pa., September 17th, 1878. By Frank N. Hamilton, A. M., M. D., LL. D., President of the Academy, Consulting Surgeon to St. Elizabeth Hospital, etc., of New York City.

# METEOROLOGICAL REPORT FOR SEPTEMBER, 1878.

Day of Month.		TEMPERATU	RE.	- Ot	Relative Humidity Daily.	Rain fall—Inches.
	Maximum.	Minimum.	Range.	Mean Barometer Daily.		
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25 26 27 28 29	87 89 87 87 87 89 89 85 88 89 85 77 75 78 82 82 85 85 86 86 86 87 87 80 86 87 85 83	76 77 74 74 76 77 78 77 76 78 77 61 62 65 66 71 73 71 72 71 73 73 71 74 74 74 72 72	11 12 13 13 11 15 11 08 12 11 14 13 14 16 17 16 14 12 15 14 14 09 14 14 09 15 13 11	30.995 30.050 30.008 29.991 29.932 29.941 29.968 29.932 29.889 29.837 29.919 29.980 30.091 30.126 30.105 30.103 30.148 30.164 30.047 29.980 30.002 30.008 30.054 30.096 30.096 30.089 30.121 30.060 30.017 29.967	72.3 68.3 77.0 82.3 73.7 72.0 72.3 80.7 68.0 64.7 46.3 44.7 48.3 59.3 70.7 77.7 80.7 80.7 83.3 79.7 79.0 76.3 70.0 76.3	.13 .01 .29 .97 .00 .01 .03 .95 .00 .00 .00 .00 .00 .00 .00 .00 .00 .0
30 Mean	84.33	72.0	13	30.022	70.88	Total: 2.67

MORTALITY IN NEW ORLEANS FROM SEPTEMBER 29 TO OCTOBER, 1878, INCLUSIVE.

Week En	ding.	Yellow Fever.	Malarial Fever.	Consumption.	Small- pox.	Pneu- monia.	Total Mortality.
October	6.	343	49	12	0	1	503
66	13	340	53	15	()	0	509
66	20	207	33	12	0	4	328
46	27.	177	29	15	0	5	310
November 3		69	19	15	0	3	193
66	10	31	12	23	0	5	152
Totals		1167	195	92	Ö	18	1995

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

DECEMBER, 1878.

# ORIGINAL COMMUNICATIONS.

Classification of the Materia Medica.

BY JOHN B. ELLIOTT, M. D.,

Professor of Materia Medica and Therapeutics and Clinical Medicine, University of
Louisiana, Medical Department.

The possibility of a simple classification is a certain sign of advancement in any branch of science. When from a thousand apparently disconnected facts, we can look beyond to a general principle which binds them all together, at that moment we pass from chaos to order, and in the reflected light of the principle can often discern for our isolated facts a wider sphere of usefulness. In no branch of medicine has this possibility been more rapidly approached than in Materia Medica. The wonderful progress in the study of the physiological action of remedies which has marked the last decade has been steadilv widening our knowledge of our remedial agents, and is gradually approximating us to that time when a thoroughly scientific classification may become possible. We now feel that this progress has authorized us in stating with some confidence not only what several of our most valuable medicines can accomplish, but also in declaring the physiological processes by which they achieve their results.

The older groupings of the medicinal agents, while in many cases true as to the prominent ultimate effect of a given remedy, expressed at best only half truths as to the possible scope of application of the articles which they included. Arranged, not from any principle of physiological similarity in action, but simply from similarity in final effect, these groupings fixed the attention of the student too exclusively upon an isolated result. Independently of giving him a warrant for a routine use of remedies it served, by letting him rest satisfied in an expressed fact, to check inquiry into that chain of physiological effects which must precede the final action. That which was visibly accomplished, satisfied, while little thought was ever given to the how and why of the process. It can also be readily understood how the older groupings tended to limit the possible usefulness of the medicinal agents. One definite result, such as they indicated, was generally but one prominent, out of many possible results which the primary physiological action of a medicine would warrant us in expecting. The remedy classed according to that single result soon lost to memory its other possibilities and became the means of attaining one end only where many others might have been undertaken with success.

While in the past, from lack of sufficient data, escape from this old system was impossible, it requires, in the present, but little reflection to understand how untoward must have been, and possibly still is, its effect upon the mind of a student.

We cannot even at this late date altogether free ourselves from the faults indicated, but we have progressed sufficiently far in the knowledge of the physiological action of medicinal agents to attempt something better. We can, at least, teach by a proper classification, partial though it be, that which has become known, and let it serve to warn the student how little warrant he has for resting implicitly upon the older groupings as ultimate. We can make prominent by such a classification all that is actually known of the physiological action of a given remedy, while at the same time it will make us careful to teach as strictly all that is doubtful or that yet remains to be known concerning it.

An attempt at a physiological classification may be far from perfect or complete in all of its details, but the very system itself will serve to stimulate inquiry as to physiological action, and with its demonstrated truths will illustrate by contrast the dangers of its unknown elements. In this department of medicine form is essentially instructive.

The most prominent of the recent works now before the medical profession in this branch of medicine are the admirable treatises of Dr. H. C. Wood, jr.,\* Dr. Roberts Bartholow,† and M. Rabuteau. The work of Dr. Wood is at once a monument to the distinguished ability and industry of its author. In it will be found the results of his own original research. while every important investigation, American or European, into the physiological action of a given agent is judiciously stated and criticised. It cannot be recommended too warmly; and while no classification is essayed beyond the usual groupings, the wealth of research in regard to physiological action warns the student at the first glance that these groupings are but tentative conveniences. In it will be found amassed an amount of experimental fact that makes the realization of a more complete classification become a tangible possibility in the minds of many.

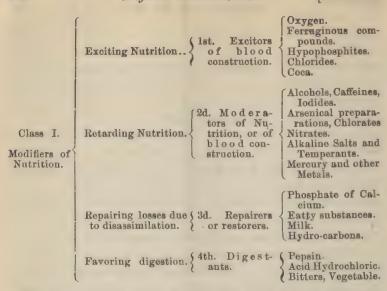
In the works of Dr. Bartholow and M. Rabuteau, we have the first elaborate attempts at a true physiological classification. These works, whatsoever improvement the future may show them susceptible of as to modification of method, must always remain the models of the new departure in classification. Their comprehensiveness leaves no room for new methods, and save in matters of detail, but questionable room for improvement. In glancing at these classifications, prior to submitting some proposed modifications, attention will be confined to that great division of medicinal agents more immediately affecting the processes of nutrition. This great division M. Rabuteau has arranged as follows:

<sup>\*</sup> A Treatise on Therapeutics, by H. C. Wood, jr., M.D. Lippincott & Co., Philadelphia.

Philadelphia.

† A Practical Treatise on Materia Medica and Therapeutics, by Roberts Bartholow,
M.A., M.D. 1876, 1878 D. Appleton & Co., New York.

† Eléments de Thérapeutique et de Pharmacologie, par M. Rabuteau, Docteur en Médeoine. 1872, 1873, 1874. Brairie Louwereyns, Paris.



The same general group of medicines, with more or less variation in their distribution, are assembled by Dr. Bartholow into two great classes:

1st. Agents promoting Constructive Metamorphosis.

2d. Agents promoting Destructive Metamorphosis.

Under these divisions no subdivisions are made.

Each of these systems has the merit of simplicity; and furthermore, they essay to group the various agents according to their supposed physiological actions. M. Rabuteau gives a more definite and specific classification than Dr. Bartholow, but even his admirable grouping admits perhaps of further simplification and unity. On the other hand, the classification of Dr. Bartholow is perhaps too general. While carefully abstaining from the error of positing a too exclusive and narrow physiological action to any agents by sub-grouping, it is apparently open to the criticism of not affording such sub-divisions as might be made, and such as would aid the student to a clearer idea of the physiological processes by which the various agents promote constructive or destructive metamorphosis. Furthermore, in neither of the above classifications is the primary physiological action of the groups indicated. Exciting nutrition and promoting constructive metamorphosis are final results.

That which must precede either is the physical process in which originates the force destined to accomplish the desired changes.

In the following pages a modification of the above classification is attempted, in which the endeavor is made to combine their valuable characteristics, with such changes or additions as seem to add to their clearness and simplicity. The proposed modification is based upon the physiological relation in the animal economy of combustion and assimilation. As the principle underlying this relation has been already elaborated in a former article, tit remains here only to glance at an outline of it, and then to apply it in detail to the division proposed. In the article referred to the theory was maintained that the "organizing force" of tissue construction, and the heat of the animal body both had their origin in the chemical energy which was transformed in the processes of combustion; that combustion was the first step in the chain of tissue construction; and that from the chemical energy disappearing in combustion, emerged animal heat and the organizing force of animal tissue. From this standpoint tissue construction cannot take place unless it is preceded by combustion; the latter is the necessary precursor of the former, just as the union of oxygen and hydrogen is the necessary precursor of the heat and light which results. This being assumed, it follows that all agents which promote tissue construction must be agents that have for their primary physiological effect the increase of combustion; conversely, those agents which diminish tissue formation have for their primary effect the diminishing of combustion. Basing a classification of this division of medicine upon this fundamental physiological fact, we would state it as follows:

Class I.
AGENTS INFLUENCING
TISSUE FORMATION.

Increasing, by Increasing Combustion.

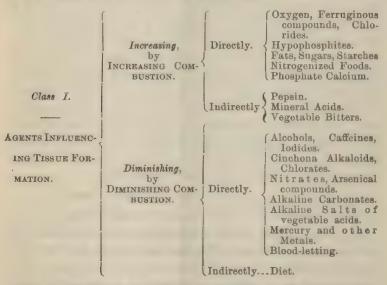
Diminishing, by Diminishing Combustion.

This prime division would correspond to the two classes of Dr. Bartholow, and would likewise agree with the two first classes of M. Rabuteau, with this difference only, that they essay to indicate the primary physiological act in which meta-

<sup>†</sup> See New Orleans Medical and Surgical Journal, November, 1878, Combustion and Assimilation.

morphosis of tissue originates, whether it be constructive or destructive. A further sub-division of these two orders becomes not only permissible, but advantageous and expressive of a truth. All of the agents that promote combustion do not do so directly. The first order of M. Rabuteau's classification, of which we may regard the ferruginous compounds as the type, all elevate temperature and increase the excretion of urea and carbon dioxide; in other words, they increase combustion directly. The fourth order, (type pepsin), of the same classification, on the contrary, by favoring the digestion and absorption of food, may be said to increase combustion indirectly. Again, the second order of M. Rabuteau (type, iodides), have the effect of diminishing combustion directly; while abstinence from food or a low diet would be a means of diminishing combustion indirectly. Without any physiological untruth, the third order of M. Rabuteau could be included under the order of agents promoting combustion directly.

From the foregoing considerations, the following is suggested as a modified form of the above classification:



This modified form is neither so specific as M. Rabuteau's, nor so general as Dr. Bartholow's. While more general in the imputed physiological action of the various agents, it gives

more unity to the divisions than the former; and while less general it does not invade the simplicity of the latter.

In considering the group classed as increasing combustion directly, it will be seen that every agent included enters as a permanent element into the solids or fluids of the body. Oxygen, the ferruginous compounds, and the chlorides, are essentially permanent constituents of the healthy blood; while from the researches of M. Rabuteau it appears most probable that such portions of the hypophosphites as are not eliminated in the natural state remain in the blood as phosphates. phosphates and the chlorides are physiological constituents of the fluid portions of the blood by which the carrying of carbon dioxide is facilitated; while iron, as a component of the homoglobin of the red globule, transports the oxygen. These all, then, by increasing the functional elements of the blood increase temperature, carbon dioxide and urea, or combustion. The oils, the fats, sugars, starches, as well as the nitrogenized foods, in a less prominent way, also promote combustion directly. This is evidenced by the fact that when the absorption of digested food has begun, temperature is elevated; if the food undergoing absorption be nitrogenous, carbon dioxide and urea are both increased, while if the food be non-nitrogenous, carbon dioxide is the chief excremental product. Of this last group, however, the effects are transient, and large quantities are required to make these phenomena prominent. They nevertheless belong physiologically to this order, and are more consistently placed here than as mere repairers. They furnish not only the material, but the force by which tissue construction is carried on. The proposed classification brings out clearly the fact alluded to above, namely, that all the so-called agents which experience tells us are capable of directly promoting combustion, are more or less largely physiological constituents of the organism. They all furnish not only physiological material, but also the force by which it is incorporated.

Little need be said concerning the order of agents classed as increasing combustion *indirectly*. In order that food should enter the system it must be digested, and those agents which are used to promote digestion directly are *indirectly* promoters of combustion. We here commit ourselves to much less than

we would in using the time-honored, but many-sided word, Tonic.

In the third order, or those agents which diminish combustion *directly*, is included the great bulk of medicines proper, whose primary effect is the retardation of combustion in the body. Of this order M. Rabuteau speaks as follows:

"All of the agents which compose this order have the power to diminish urea and carbon dioxide, to lower the animal temperature and depress the circulation. They are, then, agents moderating the movement of nutrition, and especially the process of disassimilation. This effect results, for a great number of them, and perhaps for all, in a primitive action exercised upon the blood, and especially upon the globules; so that we are able to designate them equally by the expression, moderators of blood construction."

To this order, the cinchona alkaloids have been added, for the chief therapeutic value of these alkaloids is the power they possess for diminishing temperature in pathological conditions. Their specific action as anti-periodics in malarial disease, will also require that they shall appear in a class of remedies not here considered. As it is in our power to designate the actual method by which the agents directly increasing combustion act, it will be of some interest at this point to review briefly what is known concerning the more obscure processes by which the members of the order under consideration achieve their results. The two agents of this order that are most frequently used in disease are the alcohols and the cinchona alkaloids. From the admirable work of Dr. Wood, evidence is shown that alcohol diminishes temperature, and retards the excretion of urea and carbon dioxide. The process by which this is accomplished, appears from the researches of M. Rabuteau, to be caused by an action upon the red globules somewhat akin to that of carbon dioxide, an effect at least which prevents them from executing their proper physiological functions. They seem to be partially deprived of their power for transporting oxygen, and this would comport with the lowering of temperature observed, and of diminished excretion. In the case of the cinchona alkaloids, their well-known antipyretic action seems, from recent researches, to be due to an inhibition of the ozonizing power possessed by the red globules. Given in large doses, these alkaloids appear to debase the function which the red globules possess of forcing oxygen into its active modification, ozone, It would thus seem that these valuable agents, alcohol and the cinchona alkaloids accomplish the retardation of combustion by a direct effect upon the red globules of the blood.

In regard to the metal arsenic, and its preparations, M. Rabuteau, from his researches, was led to the conclusion that arsenic destroyed directly the red corpuscles of the blood, and this conclusion is well borne out by the recent experiments of Drs. Cutler and Bradford, with arsenic, upon the globular richness of the blood. These experiments showed that the compounds of arsenic diminished markedly, in the blood of the healthy subject and in the blood of patients suffering from simple anæmia, both the red and the white corpuscles.

The exact method by which the other members of this group diminish combustion, still remains to be proved. It can only be stated in general that when their use is continued for a lengtheued period, they seem to produce pallor and to diminish the red globules. Whether this is a primary or secondary effect, cannot yet be asserted. It may be said, however, from an impartial consideration of all the evidence available, that they certainly diminish combustion, and, therefore, tissue construction.

The above considerations are advanced with a diffidence becoming the intricacy and obscurity of the subject; but they are submitted with the belief that the basis of classification is physiologically sound, howsoever much it may be found to err in the verity of its assumed details.

What Was It? | Bellew Four & Cours

By J. E. WRIGHT, M. D.,

Columbia, Caldwell Parish, Louisiana.

CASE 1.—R. B. B., native of Louisiana, aged twenty-four years, tall, well formed; weighs 136 pounds. By occupation a merchant; active habits; shrewd and successful in business,

unflagging energy, fine intellect, judgment, reasoning, perceptive and reflective faculties, all harmoniously and admirably balanced; sanguineo-bilious temperament, black hair, blue eyes, skin a light brunette, and usually tinged with the glow of health. Has always enjoyed fine health, with the exception of a severe spell of pneumonia, several years ago, in which spell he was attended by the writer, and was confined to bed about ten days. Was taken with a severe chill early in the morning on Thursday, October 3, 1878. I saw this case within twenty minutes after the invasion of the chill. Found him covered up in bed, with quite a number of quilts and blankets, shivering with cold, face exsanguinous, pale and livid; lips and nails evanotic, breathing rapid, frequent and sighing; pulse rapid and very weak, nausea, with frequent retching and occasional ejection of fluids drank, mingled with white, ropy mucus. In spite of a hot mustard semicubium, administered under the covering, hot bricks placed around his person, inhalation of nitrate of amyl, and a large cataplasm of mustard over the epigastrium, the chill continued for at least one hour. Simultaneously with the accession of the chill, pain, of a most severe and atrocious character, was complained of in the head and back.

As the chill gave place to fever, this frontal and lumbar pain were greatly aggravated—so much so, indeed, that the patient, though a man of more than average fortitude and firmness, complained most bitterly. In about four hours after subsidence of the chill, the fever attained its acme—pulse 110, temperature 104° Fah.; face flushed to a scarlet red; eyes bloodshot, bright and fiery; constant jactitation, pain of head and back, almost distracting; urine scant, high colored, and showing, by the acid and heat tests, a trace of albumen. There was thirst, nausea, retching, and the occasional ejection of bright green, sour smelling, bilious matter.

The prime object of this communication being to have my diagnosis confirmed or refuted, it is foreign to my purpose to enter into details of the treatment. The fever continued with but slight variation in pulse or temperature, and no melioration of the subjective symptoms through the night. Our

morning visit was made about the same hour at which the chill occurred the preceding day. Pulse was now 104 to the minute; temperature under the tongue 103.5°; tongue streaked with alternate stripes of deep red and light brown, about the color of Scotch snuff. This organ was completely dry, contracted and pointed, i. e., the tip tapering to a sharp point. Great sensitiveness was evinced to pressure over the epigastrium, and pain complained of in the hypogastric region. A dark, grumous, semi fluid and most fætid discharge from the bowels, with streaks of blood interspersed, occurred about 2 o'clock in the morning. A dose of effervescing citrate of magnesia had been administered late in the afternoon of the preceding day. This hypogastric pain, called by the patient "cramp," became very urgent and troublesome during Friday, the second day, and was accompanied with frequent efforts at defecation, tenesmus and small bloody, mucous discharges, and was finally controlled by a small suppository of solid opium. Face continued deeply flushed; eyes suffased, bright, and giving an expression of surprise or alarm. Head and back ache continued with unabated fury; urine scant, and loaded with albumen; frequent desire to micturate, only very small quantities being passed at each succeeding effort. Finally, soon after night, complete retention ensued, so that, in spite of the most importunate desire to micturate, not a drop of urine could be passed. The spine, and particularly the lumbar region, was well rubbed with olive oii and spirits turpentine, equal parts, made as hot as could be tolerated. Hot stupes of turpentine, laudanum and sweet oil, equal parts, were assiduously applied to the hypogastrium, but no urine could be voided, not with standing the most urgent and uncontrollable desire to empty the bladder. It is proper to mention in this connection that no drug had been administered which could in the remotest degree be suspected of having produced strangury. Finally, matters became so urgent, and even desperate, that we were forced, notwithstanding the aversion of the patient to such an expedient, to resort to catheterism. About eight ounces of highly colored urine were removed, to the great relief of the patient. This urine was still highly albuminous, and without a trace of the chlorides.

During the latter part of the second night, or in about forty hours from the invasion, the fever began to decline. The defervescence, once began, was rapid, a marked diminution being perceptible from hour to hour, so that by daylight, Saturday morning, the pulse had dropped down to 80, temperature to 98.5°; both pulse and temperature being very near the normal or healthy standard. The nausea and tendency to vomit, hitherto so troublesome, subsided with the fever; also the pain in the back was greatly mitigated, though not entirely absent. Headache still continued, though less intense; tongue thickly coated with a brownish saburra about the color of Scotch snuff There was an indefinable sense of mal aise and restlessness, complete insomnia, frequent deep sighing, eyes less suffused, but having a dull, muddy, yellowish tinge of the albuginea; pulse weak, and indicating great defect in heart power; great prostration; features pinched, hippocratic and expressive of unrest and anxiety; urine scant and claret colored, albuminous; occasional pain in hypogastric region, followed by small, dark colored and highly offensive stools, more or less tinged with bloody mucos, and passed with considerable tenesmic effort. This pain, tenesmus, and bloody mucous discharges, were relieved and restrained, from time to time, by small suppositories of solid opium. During the day, Saturday, third day of illness, the pulse dropped down to less than 70 to the minute. with a corresponding degree of general depression, notwithstanding the assiduous use of stimulants and supporting measures to the utmost extent admissible by a sound discretion. The surface heat, as indicated by the thermometer in the axilla or buccal cavity, was also below the normal standard, ranging from 75° to 80° of Fah. Leaving the patient for a few hours repose, late Saturday night, in the care of nurses whose fidelity and intelligence have rarely been equalled and never surpassed, my auxiety and solicitude brought me to his bedside again at an early hour Sunday morning. On entering the room I was struck with the wan, sad and dejected face of my patient, which now presented a dark yellowish and muddy hue of both skin and eyes, which had not escaped the notice of the anxious and devoted mother, who, with sleepless vigilance, watched

and ministered to his wants throughout this and every succeeding night of his illness. Pulse 56; temperature 77.2°; skin cool, especially that of the extremities. There was insomnia, complete anorexia, disgust and loathing at the mere idea of food; thirst, headache, some backache, though not severe. Tongue unchanged; bowels acted during the night, less blood, less fœtor, and more consistence in alvine dejection. During this entire day there was little appreciable change in pulse; temperature, or other symptoms, of either subjective or objective character. The succeeding night was passed, as heretofore, in restless insomnia. All the sleep, if any, was mere momentary dozing. Unrest, anxiety of countenance, frequent sighing, and a sense of utter prostration marked the lagging hours of the long and dreary night.

Tuesday morning, found patient, in all essential particulars, about the same. Some light food (toast and tea), taken to-day, was soon rejected, in a state of acetous fermentation. During this day slight repugnance to stimulants was manifested, and slight spells of singultus occurred every few hours through this and the succeeding day. Wednesday, Thursday and Friday, heart-power still very weak, pulse oscillating between 56 and 62, and temperature a little below the normal standard. On Friday night, however, there was less restlessness, and patient enjoyed several short naps of sound and refreshing sleep. Saturday morning, tenth day of illness, pulse 72; temperature normal; tongue moist and cleaning; some appetite for food; less thirst; no pain; skin and eyes clearing; countenance bright and cheerful; urine more copious, free from albumen, and has a marked trace of the chlorides. Patient decidedly better. This day, the eleventh of illness, was passed in comparative comfort, patient receiving, with cheerful and lively responses, the hearty congratulations of his numerous friends, and often joining in the hilarity and badinage not unusual on occasions of rejoicing. On Sunday night, however, sleep was disturbed by uncomfortable feelings in the bowels and two pretty large semi-fluid feecal discharges. This was, in all probability, the result of too much exertion in conversation, and, perhaps, slight indiscretion in eating the day before.

Monday morning, twelfth day of illness, patient not so well; feels weak, languid and depressed, with slight occasional uncasy sensations in the bowels. There is less appetite for food, some thirst, mouth dryer, and some headache. Under appropriate regimen, however, this little unpleasantness soon passed away, and the following day patient was fairly and fully convalescent. Dismissed from professional surveillance and turned over to maternal care; in a few days more he was out on the streets, and soon resumed his post in his store, and active business habits.

It will be observed by the careful reader, that this was a fever of one single paroxysm, lasting about 40 hours; that it was followed by extreme prostration, and marked defect in power of the central organ of the circulation; that there was, from its very inception, great disturbance in the great nervous centres, as evinced by the agonizing pain of head and back; that the onus of the morbific process seemed to expend its force upon the nervous centres, the circulatory system, and the assimilative organs; that the renal functions were greatly impaired, and the urinary excretion highly morbid-in a word, all the emunctories and depurators of the entire organism were in a crippled and morbid state. Finally, that this fever of one paroxysm, and lasting less than two entire days and nights, was succeeded by a degree of prostration and derangement of the normal physiological functions of the entire organism which required full ten days, aided by the best nursing, and the most assiduous remedial appliances, to enable the conserving powers of nature, in a vigorous young man, to correct the morbid state, and restore a healthy equilibrium to an organism shocked to its very centre by the baleful influence of a subtle and mysterious blood poison. From a consideration of all these facts, we are prompted to iterate the question which heads this article, viz., What was it?

This young gentleman, sole owner and proprietor of the largest mercantile business in town, shipping from 1000 to 1500 bales cotton annually, and doing an immense supply business for the farmers of the surrounding country, is brother to two of the most popular steamboat owners and masters in the

Ouachita trade. He is thus, both from the necessities of his business and from inclination, brought constantly into personal contact with the steamboats constantly plying between this place and New Orleans. When the late pestilence of yellow fever was at its worst, he frequently received goods and merchandise after a short quarantine, from the plague-stricken city. He was, after night, on board the Bastrop the trip preceding the one during which one of her officers sickened and died of the yellow fever. He received a large lot of coffee (in barrels) direct from the city during the height of the pestilence. At sundry times, preceding his illness, he received large invoices of cotton bagging. A perfect type of those master spirits which quail not at nor turn aside from any obstacles which obstruct the path of business or duty, he freely and fearlessly exposed himself whenever, or wherever, either business or duty required his personal presence or attention.

CASE 2.-J. V. J., half brother to case 1, aged 29; weight 135 to 140 lbs.; stout; active; fine constitution; bright; cheerful; highly intelligent; sanguine temperament, and by occupation clerk on steamboat; has been uniformly healthy, except a sharp spell of double pneumonia in the winter of 1872, in which the writer also attended him. His recovery from that spell, though requiring some 10 or 12 days, was complete, leaving no trace of morbid sequelæ. This young man was attacked on the boat, on Sunday evening about 4 o'clock, when below here, on the up trip, with severe chill, succeeded by high fever, flushed face, fiery red eyes, intense pain in head and back, thirst, nausea and vomiting. Such was the statement of the highly intelligent commander of the boat, Capt. J. W. B. Before reaching this point, he had duly received the stereotyped mustard foot-bath and dose of castor oil. On Monday evening-28th Oct., 1878, the day after attack—the boat passed this point, tied up about two miles above town, and sent for the writer. We reached the boat about 4 o'clock, P. M., just 24 hours after the invasion of the initial chill. Found patient in bed; face intensely flushed; eyes fiery red and glaring; radial pulse 104; temperature, under tongue, 103.2° Fah., tongue

thickly coated with light snuff-colored fur; nausea; thirst, and intolerable pain in head and back. Oil acted several times, but could not learn, satisfactorily, the character of the alvine discharges. Had vomited frequently the water taken to appease thirst, mingled with mucos, and occasionally bile; this was the character of the matters ejected. Kidneys were acting well, urine being a dark claret color, free from albumen, and presenting distinct traces of the chlorides. Skin pliant and moist. Patient, though suffering intensely from head and back ache, nausea, etc., bears it with silent and stolid firmnessseldom making a remark unless spoken to. His mother, the devoted nurse who aided me so efficiently and intelligently, in carrying case 1 through, promptly repaired to the boat, and in the face of the general panic, fearless of consequences, took her position at the bedside in the little state room of the steamer, and remained there, hovering over the sufferer day and night, like a "ministering angel," until the dread conflict ended in the convalescence of the patient. Tuesday morningpatient in statu quo, little or no change being appreciable in the "tout ensemble" of symptoms -pulse, temperature, tongue, skin, renal functions, being all about the same as at first visit. Slept little, if at all, during the night; no appetite; thirst, and unmitigated pain of head and back. During this day the excruciating back ache was apparently mitigated by frequent frictions with a hot mixture of turpentine and oil over the lumbar region and along the spinal column. Great comfort and refreshment also seemed to accrue to the patient from occasional sponging with strong wood ashes lye, in which chloride of soda had been dissolved to saturation. This sponging was done under the bed clothes, and extended to every square inch of the surface except the face and head. I may mention incidentally that case 1 was similarly benefited in the same way. At the evening visit on Tuesday, at 6 o'clock, P. M., little change since morning in subjective symptoms. Bowels acted twice to day. Stools fluid, chocolate-colored, and emitting a most horrible odor. Kidneys have not acted since morning; pulse, temperature, etc., not materially changed. Wednesday morning-Patient clear of fever. Fever began to

subside about midnight. I had left a fever thermometer with the mother, who understood its use perfectly, and had taken and recorded the temperature every hour since my visit of the preceding evening. She had also carefully noted the pulse every hour. As in case I, defervescence once commenced progressed with surprising rapidity.

Pulse now (9 o'clock, A. M., Wednesday) 78; temperature 990; pain in the back gone; some headache; frequent sighing; no sleep last night; less thirst; tongue unchanged, except perhaps not quite so dry. Kidneys acted this morning pretty freely, urine high colored, and under tests of heat and nitric acid, shows flakes of albumen. (This was shown to Capt. B., commander of the boat, who at once recognized the albumen, and comprehended its dangerous significance.) Chlorides, merely a trace; countenance anxious, utter prostration, skin and eyes muddy, sallow, and have a yellowish tinge. This yellowness more distinctly marked about the angles of the jaws, at the corners of the mouth, and across the nose where it joins the forehead. In the course of this day, pulse, as in case 1, dropped below 70 to the minute, and temperature a little below the natural standard. Thursday, Friday and Saturday were marked by very slight variation in the symptoms. Pulse never rose during these three days above 64, and was often as low as 54 to the minute, notwithstanding the assiduous use of supporting measures. On Saturday morning I had to attend a case of obstetrics in the country, which detained me until nightfall. Meantime the boat had dropped down to the landing at town. I found the attendants very anxious at my prolonged absence, all thinking that the patient was growing worse. Frequent yawning had occurred all the afternoon, and pulse was constantly below 60. Bowels had acted, and additional prostration seemed to be the result. By promptly restraining further disturbance of the bowels, to which there was a tendency, and the assiduous use of supporting measures, these symptoms were greatly meliorated, and Sunday was passed in comparative comfort. Patient, though greatly prostrated, was so much better on Monday morning as to admit of his removal, on a litter, from the boat to a more spacious room

in the house of his step-father. Notwithstanding the extreme caution observed in his removal from the boat to the house, a distance of some two or three handred yards, he was completely prostrated thereby, and did not rally until the next day. Tuesday, the twelfth day of illness, patient was in all respects greatly better. Tongue cleaning, some appetite, thirst gone, urine copious, free from all traces of albumen, bowels comfortable, skin and eyes clearing up, countenance cheerful and bright—in a word, convalescent. Some indiscretion in diet, to-day, eating an apple, and an orange, etc., again set up slight disturbance of the bowels, which promptly yielded to appropriate regimen and simple correctives, and though exceedingly weak, he was soon out on the streets, and in a few days at his post in the office on the boat.

It will be observed, that this case was almost a perfect counterpart or fac simile of case 1. The principal point of divergence was in the duration of the single paroxysm of fever. In case 1 the fever lasted about forty hours; in case 2 its duration was extended to about sixty. In all other respects the symptoms, progress and duration of each case were strikingly similar, except that in case 2 the albuminuria was greatly less pronounced. Case 2 has been constantly engaged as clerk on the Little Bob B. during the epidemic prevalence of the pestilence in the city of New Orleans this year, except a few weeks in midsummer which he spent here, during which time the boat was laid up. After the larger boats, Bastrop and Wilson, were quarantined against by our town authorities, and they commenced discharging up freights at or near the mouth of Bouff River, the Little Bob B. connected with them and brought their eargoes to this and other points above. J. V. J. was thus exposed every trip in superintending the transfer of goods and packages from one boat to the other, or from the quarantine station at the mouth of Bœuff River, where they had been deposited by the larger boats, to the Little Bob. Meantime, vellow fever, said to be of a well marked type, made its appearance during the last days of September, and the early days of October, at the mouth of the Bouff, and at Mrs. Knight's Landing, a few miles below, where Dr. Baker, of Harrisonburg, and

a number of others, died with the pathognomonic symptoms of that disease. Later still, and sometime prior to J. V. J.'s attack, that disease invaded Harrisonburg, several cases occurring almost simultaneously, two, if not more, of which proved fatal. These Harrisonburg cases, and some of those at Mrs. Knight's Landing, were seen and treated by a Howard physician, sent up with nurses from New Orleans, who pronounced it genuine and unmistakable yellow fever, of precisely the same type, character, and distinctive features as that prevailing in the city of New Orleans. These circumstances, taken in connection with the symptoms and course of the cases of R. B. B. and J. V. J., induced me to diagnose them yellow fever. This diagnosis has been variously discussed, doubted, impugned, and by some professionals, whose strongest forte is to float with the popular current, disputed. These doubts of my diagnosis have been strengthened by two facts, viz: my patients, unlike many typical cases of yellow fever, did not die; and the disease, unlike yellow fever is often prone to do, did not spread, the nurses, attendants, and neighbors all escaping unscathed. By way of apology for my patients, in not dying "a la mode," and also for the disease, in not spreading, I may mention that they occurred late in the season, after the virulence of the epidemic had began to wane, and in J. V. J.'s case, after and about the time the atmosphere had been purified by the greatest of all known prophylactics, viz: several good frosts. This argument, and these apologies, it is thought, will be both satisfactory and conclusive to the minds of all well-informed physicians, which have not been warped by preconceived prejudices, or supplekneed and obsequious complacency towards public opinion. We have seen yellow fever, with all its grim retinue of horrors, hemorrhage, black vomit, bronzed and yellow skin, rapidly ending in death. In pronouncing these cases yellow fever, we simply obeyed the behests of duty according to our best judgment. We have been clinically familiar, for more than a quarter of a century, with every conceivable variety, type and shade of fever originating from marsh miasmata, We have lived, and constantly practiced medicine, during this long lapse of years, in a highly malarious region. Seven-tenths, at least, of

the many thousands I have treated for multiform diseases, owed their illness, either proximately or remotely, to the baleful effects of swamp poison. We have studied this class of diseases from books, from periodical medical literature, from the lectures and teachings of some of the most distinguished, living or dead, professors of the healing art, and we have studied them at the bedside with all the earnestness and powers of mind which God has given us. If, after all this labor, study, and clinical experience, we are yet incompetent to diagnose a case of malarial billious fever, after watching it ten or twelve consecutive days and nights, our plight is truly most pitiable.

Finally, we desire to place the assertion on record right here, that these cases were not cases of malarial fever, in the common acceptation of that term. If it was not yellow fever, the question again recurs, what was it? At some future day, when we can command more leisure than at present, we shall go more fully into details respecting these cases, embracing the minutæ in regard to treatment. It must suffice, for the present, to say, that our treatment of these cases had no special reference to any particular nomenclature of our nosology. We treated symptoms, without reference to names, and met exigencies as they arose, the best we could. The cardinal principles held in view throughout, were to conserve the vital energies, i. e., sustain the patient by all prudent and practicable means, ward off accidents, guard weak points, and cautiously aid the emunctories in their efforts to eliminate the materies morbi. We disclaim any wish to contest the time-honored opinion, held by so many of the learned and wise of our predecessors, and never (that we are aware) having been gainsaid by the best informed of our cotemporaries, viz., that during the prevalence of epidemic pestilence all diseases assume, to a greater or less extent, the livery of the prevailing plague. Nor are we unmindful of the fact, that, at the beginning of yellow fever the distinctive diagnosis between that disease and some types of malarial fever is often difficult, if not impossible, even by the most skilled and experienced diagnosticions. All these points have been calmly and carefully considered, and due weight given to each, in making the diagnosis of the cases

herewith submitted. Our diagnosis created quite anxious and excited feelings in our village and contiguous neighborhood. Finally, it was impugned, and by some flatly disputed. Hence we applied to your better judgment and riper experience, as umpire. Truth, in its plain and unambiguous verity, is all we seek, and we are most willing to abide your decision. Should you deem this crude sketch of these cases worthy of a place on the pages of your valuable and highly appreciated "Journal," you will conter a great favor on the writer by appending your opinion, based upon the data here given, in relation to the interrogatory: What was it?

[Note.—The careful observations of the writer leave no doubt in our minds that the two cases were certainly yellow fever.—Eds.]

## Minutes of Proceedings

ORLEANS PARISH MEDICAL SOCIETY.

Seventh Meeting, August 19th, 1878.

The Society convened in adjourned meeting. Fourteen members present.

Dr. Davidson, Vice President of the Fourth, Sixth and Seventh Districts, in the chair.

Dr. J. C. Faget submitted for consideration the following

#### QUESTIONS ON YELLOW FEVER,

- 1. Yellow fever, once admitted to be a "specific fever," is it a fever of several paroxysms, or of one single paroxysm? (this, of course, in cases of "pure" yellow fever, not combined with paludal or malarial fever.)
- 2. Besides their intermittent and remittent types, do not paludal fevers sometimes exhibit symptoms of a sort of "penetration" of the several paroxysms into each other, thus presenting apparently a continuous fever? Or, in other words, is there not a third type of the paludal fever, the pseudocontinuous?
  - 3. Yellow fever, declared a specific fever, must have its

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specific, or pathognomonic symptoms or signs? Is "black vomit" one of these symptoms or signs?

- 4. Cannot yellow fever and a paludal fever attack simultaneously the same person, as is sometimes the case with variola and scarlet fever, or scarlet fever and measles?
- 5. In case of a combined attack of yellow fever and of a paludal fever, what is the course of the two fevers?
- 6. Does there exist a sort of "hybrid" fever produced by the combination of the yellow and paludal fevers?
- 7. Can the pulse, alone, suffice to determine a diagnosis, in "medium" cases of yellow fever—that is, in those cases which are neither the extremely light nor the extremely serious cases?

The following are Dr. Faget's remarks:

"I respectfully submit the above questions to the consideration of the meeting. I request to be allowed a few remarks relative to the subjects embraced.

I mean by cases of "medium gravity" those in which the thermometer rose above 103° Fahr., and those in which death did not happen before the third or fourth day (and even before the fifth or sixth day); so that it may be considered that sufficient time was allowed by the disease for a proper medical treatment.

Those cases in which the thermometer does not reach 103° Fahr., are very light, and the patients generally recover without any treatment, or even in spite of improper treatment. Per contra, in that class of cases in which death occurs within three or four days, I am of opinion that the most skillful treatment would have been baffled by the violent character of the disease.

So that, in speaking of cases of "medium gravity," I only refer to those cases where a cure has been effected by proper medical treatment. These medium cases are the most instructive.

"A very important document which I have studied with the greatest care is the account of the yellow fever epidemic of Memphis in 1873, which was published by Dr. Saunders, in the

May number of the year 1874 of the New Orleans Medical and Surgical Journal.

His observations are based on figures giving the pulse and temperature in one hundred and three yellow fever cases.

In my last pamphlet, published in 1876, I represented in the form of our square lined tables, or cards, the figures of "temperature" and "pulse" of Dr. Saunders' 103 cases.

It will be seen that of the 103 cases, there were:

- 1. Eight light cases, that is, cases in which the temperature did not rise above 103° Fahr.
- 2. And six cases in which death was produced very rapidly, leaving eighty-nine cases of those which I have called "medium cases."

In those eighty-nine cases, while the temperature of the patients remained almost stationary between 103° and 105° Fahr. during the first days, the number of arterial pulsations decreased gradually. So that in the eighty-nine "tables" of the medium cases, the pulse is invariably represented by a straight, unbroken, oblique, descending line.

This is, in my opinion, the pathognomonic sign of real yellow fever."

In reply to question 1, Dr. Bemiss remarked that he regarded yellow fever as a disease of one paroxysm, even so in mixed cases, many of which are now coming under observation. He spoke of the irregular course of the line of temperature, but the downward grade of the pulse in many cases of the prevailing fever, and recited one now under treatment with temperature 102° F., pulse 34. Much earlier than usual, and more frequently this year, he has observed a disturbance of the pulse in its gradual, downward course, and considers this interruption an indication for stimulation.

In the discussion of question 2, Dr. Bemiss stated that this "penetration" of the paroxysms in malarial fevers is an occurrence not ancommon, by which the remissions are rendered less marked. He thought, however, the temperature line of defervescence in yellow fever, as a rule, more decidedly downward and less broken than in the "pseudo-continuous" paludal fevers.

In answer to question 3, Dr. Bemiss candidly confessed that he knew of no absolute, unfailing sign of yellow fever.

Dr. Lewis replied to question 4, and related cases in evidence of the fact, that yellow fever and malarial fever may co-exist in the same subject.

Dr. Bemiss spoke of the coexistence of yellow fever and malarial fever as a common occurrence. Had never seen yellow fever associated with small-pox, measles, or scarlatina, but referred to such cases observed by others, especially Dr. Drysdale, of Boston.

Dr. Davidson said that in 1837, 1847, 1853, and 1858, yellow fever came when the malarial fevers were rife, and often, in those years, he had observed an intermittent or remittent fever continue for two or three days, when a fever would kindle up and run exactly the course of yellow fever.

Dr. Bemiss remarked that, in his experience, when malarial poison is prevalent, yellow fever poison is more potent.

Dr. Davidson then spoke of the prevalence of yellow fever in New Orleans in 1832, when cholera first appeared in this country.

The more potent poison predominated, yellow fever soon subsided, and those persons sick of yellow fever, who took cholera died directly.

Dr. Bemiss spoke of the common belief, entertained, too, by many members of the profession, that yellow fever epidemics run their course in one hundred days, and thought, possibly, the abatement of yellow fever, in 1832, was a natural subsidence.

In the discussion of question 5, Dr. Bemiss remarked that, in those cases where yellow fever and paludal fever co-exist, he had always observed the former predominate. Has never seen malarial fever overtop yellow fever, but has observed the malarial fever pursue its course after the abatement of yellow fever.

Dr. Lewis cited instances in which intermittent fever had succeeded yellow fever during the convalescence, but was unable to say when the malarial poison was received.

The chair ruled that the discussion of question 6 had been anticipated in the previous discussion.

On motion of Dr. Levy, seconded by Dr. Lewis, the discussion and decision of question 7, was deferred until the next meeting, to afford opportunity for further observation and the collection of the records of past cases.

A. B. MILES, Recording Secretary.

Eighth Meeting, November 13th, 1878.

The Society convened in special meeting, eighteen members present.

Dr. Herrick, Vice President of the 1st and 5th Districts, in the chair.

In the order of unfinished business, the Society resumed discussion of the Relation of the Pulse and Temperature in Yellow Fever.

Dr. Logan spoke first, and regarded the subject of discussion as one of great interest, in that the variation of the pulse and temperature, especially in those "medium cases" described by Dr. Faget, is a striking peculiarity of yellow fever. In no other disease is there such a discord between the number of pulse beats and the degree of temperature. In a certain number of fever cases, however, has observed the correlation of pulse and temperature usually existing in other diseases. Acting upon the supposition of a concurrent malarial fever in these cases, has often administered sulphate of quinine, without effecting any change whatsoever. The two symptoms mentioned as paramount in yellow fever, are high temperature, with profuse perspiration, and the loss of the usual pulse-temperature ratio, by the gradual decline of the pulse.

Dr. Davidson spoke of the decline of the pulse in yellow fever as a general rule, to which there are many exceptions. His recorded notes of a large number of cases of the fever this year, show a high temperature with a variable pulse, rising and falling, declining, but in a broken, irregular manner.

Dr. Herrick asked whether the "pathognomonic sign" of Dr.

Faget obtained in the fever of children as in adults. He had observed the frequency of the pulse in children maintained for a longer time.

Dr. Henry had observed in children a decline of the pulse from the third to the fourth day, a rise between the fifth and sixth. He spoke of the influence of malaria in predisposing to hemorrhages in yellow fever, and the frequency of black vomit and hæmaturia in the fever of children living in low, damp places. Sulphate of quinia was of no service in these cases.

Dr. Pratt had usually observed the pulse corresponding with the temperature of yellow fever in the first twenty-four hours, the greatest subsidence in the pulse occurring after the temperature had fallen to the normal standard. He expressed the opinion that the malarial poison does not increase the tendency to hemorrhage.

Dr. Logan expressed a different opinion. In surgical operations upon malarial subjects, had often observed the tendency to hemorrhage. He spoke of his service in New Iberia, in 1867, where the most violent cases observed occurred among the transient raftsmen, who were saturated with malaria, in whom the fever rapidly assumed a hemorrhagic form. The prognosis was modified by the previous history of malarial disease.

Dr. Pratt reiterated the opinion above expressed, that the malarial poisoning does not predispose to hemorrhages in the fever. The most virulent cases observed this year occurred among the employees of the Charity Hospital. He alluded to the fact, as one generally accepted by the profession, and even known to the laiety, that the most robust, plethoric patients presented the most malignant cases of fever. He explained the frequent occurrence and the virulent character of the fever among the New Iberia raftsmen, as follows: During an epidemic, we are constantly taking in, and as constantly eliminating the yellow fever poison. The fever develops itself in an individual because of the arrest of elimination of the poison. Persons living in a certain locality become accustomed to eliminating in that atmosphere. New comers are unacclimated, elimination is, therefore, more liable to sudden and complete

arrest, and the disease to develope in such persons in a more virulent form.

Dr. Carson inquired of the character of the pulse in yellow fever.

Dr. Davidson replied that he had observed in the outset of this fever an unusual rapidity of the pulse. He cited two cases especially, in which, during the first twenty-four hours, the pulse was vibratory, with no resistance, and too frequent to count.

Dr. Watkins asked about the prognostic value of a slow pulse. He regards the symptom favorable, although the temperature remain high.

Dr. Herrick coincided in this view, and mentioned the case of a youth, nineteen years of age, who, a week after the abatement of the fever, had a pulse of thirty-six. At the time of the report, the boy was convalescing favorably. In the fever of children this year, he has found the pulse feeble and frequent, and declining with the temperature; not full and soft, as the typical character of the pulse in adults is described. Again, he remarked that the fever of children subsides in 36 to 48 hours earlier than in adults; but would offer no explanation of the clinical fact.

The new cases of the fever were reported—two by Dr. Davidson, two by Dr. Logan, one by Dr. Layton.

On motion the Society adjourned.

A. B. MILES, Recording Secretary.

Proceedings of the New Orleans Med. and Surg. Assoc'n.

NEW ORLEANS, November 9th, 1878.

The Association met at the usual hour, eleven members present.

In the absence of the President and the Secretary, Dr. D. C. Holliday was called to the chair, and Dr. A. B. Miles requested to act as Secretary.

In the order of original communications, Dr. Herrick read his article, published in the October number of the New Orleans Medical and Surgical Journal, entitled Ergot in Black Vomit, and, in furtherance of the same subject, presented the following:



## Ergot Again in Black Vomit.

BY S. S. HERRICK, M. D.

In the October number of this Journal, I related a case of black vomit, which recovered under treatment by the hypodermic use of Squibb's ergot. I have to add now, in reference to this case, that a sloughing of the skin and cellular tissue followed at the seat of three punctures, which were made too near each other. I am also satisfied, from subsequent experience, that the ergot was used more freely than was really necessary in this case, and that the remedy is not infallible where black vomit is only one of the dangerous symptoms. The following cases, treated at Mississippi City, exhibit my further trials of ergot:

CASE I.—Mr. C., æt. 32 years, native of Virginia, was seized with yellow fever at 2, P. M., October 9th. Treatment commenced by thorough evacuation of stomach and bowels. At 5:30, P. M., pulse 124; temperature 1033.

October 10.—Temperature rose to 104°, and frequent sponging of the body was practiced.

October 11.—Sponging continued. Temperature varied from  $102_4^{3\circ}$  to  $103_4^{3\circ}$ . No unusual symptoms, except high temperature.

October 12.—7:30, A. M., pulse 100; temperature 100½°. In afternoon, observations about the same. Stomach irritable, but not tender on pressure.

October 13.—7, A. M. Stomach irritable and tender. Flyblister ordered to epigastrium. During the day hiccough set in and became persistent, for which assafætida was given by enema.

October 14.—2, A. M. Hiccough still continues. Appearance of black vomit. Squibb's ergot, M xx, given hypodermically. 5:30, A. M. Slight recurrence of black vomit. Hiccough

persists and defies all remedies for its arrest. Ergot repeated hypodermically. There was no more black vomit, though the iced toddies and milk given by the teaspoonful were occasionally rejected.

At 10, A. M., iced champagne was substituted and retained better. By this time his pulse had become faint and his mind somewhat clouded. Hiccough had nearly ceased. At 12:45, P, M., he was found delirious, with colliquative sweating.

Death at 3, P. M., October 14th, five days and one hour from beginning of attack. At 6, A. M., of that day, a small quantity of urine was voided. None subsequently.

In this case it is not improbable that the gastric hæmorrhage was arrested by the ergot, but a train of cerebral symptoms set in, for which no remedy has yet been found, when occurring in yellow fever.

CASE II.—Mattie B., æt. 13 years, native of Alabama, sickened October 16th, at 10, A. M. Treatment began as in previous case. At 1:30, P. M., before evacuation of bowels, pulse was 128, temperature 103°. At 6:30, P. M., after action of cathartics, pulse 128, temperature 100½°.

On the 17th, 18th and 19th the pulse regularly declined, while the temperature irregularly fluctuated between  $100\frac{1}{2}^{\circ}$  and  $102\frac{1}{2}^{\circ}$ . On the 19th there were frequent eructations of gas and irritability of the stomach, but without tenderness on pressure. At 3, P. M., October 19th, 2 or 3 ounces of black vomit were ejected. No time was lost in applying a fly-blister to the epigastrium and administering Squibb's ergot, M x, hypodermically. At 5:30, P. M., there was a more copious discharge of black vomit, and the same dose of ergot was repeated. At 9:30, P. M., the eructations had ceased, and there was no more black vomit, but for security another dose of M xv was administered. Nothing given by the mouth but ice and champagne.

October 20.—No more vomiting, but occasional nausea and eructations. Great complaint of pain at seat of punctures. As the urinary secretion was abundant and free of albumen, an enema was administered at 4:30, P. M., containing M viij. of Battley's Sedative and M xx. of Squibb's ergot, which gave

relief to pain. The eructations ceased, and the kidneys continued to act well.

Thenceforward the case progressed favorably, though the stomach continued weak and occasionally irritable for several days. The temperature did not return to the normal standard under six days from the beginning of the attack, though at no time was it observed above 1024°.

There was probably a family tendency in this case to black vomit, as her mother and little brother had died with this symptom a few days previously; but she was never aware of the danger of her condition until it was long over. This fortunate ignorance was not enjoyed by Mr. C., above mentioned, who was quite fully informed of the case of Miss D., related in the October number. He consequently understood perfectly well his situation by observing the line of treatment adopted, and this knowledge may have had a very unfavorable effect upon his case; for it was known that he was in great dread of the disease, and had been taking quinine as a preventive for weeks beforehand.

CASE III.—Jos. S., æt. 16 years; native of Mississippi; was attacked with yellow fever in the morning of October 20th. During this day his temperature rose to  $103\frac{3}{4}$ °.

The following day it rose to 105°. On this morning his mother took the responsibility of giving him another dose of castor oil by the mouth, without my knowledge or approval. At 5:40, P. M., I found him eructating from a tender stomach, with a dry skin, and restless. A fly-blister was applied to the epigastrium.

October 22.—At 9, A, M., he spit out a trace of black vomit. No time was lost in giving M xv. of Squibb's ergot hypodermically, and there was no further appearance of black vomit, though his stomach continued to be irritable throughout this and the following day. On this day his temperature was observed as follows: 7, A. M.,  $102\frac{1}{2}$ °; 9:15, A. M.,  $103\frac{3}{4}$ °; 7:30, P. M., 10010. His urine was found albuminous.

These cases suggest their own commentary so plainly, that little remains appropriate to be said. Black vomit is understood to result from gastric hæmorrhage, which, when profuse and prolonged, will exhaust a patient like any other hæmorrhage. Rationally, therefore, our efforts should be directed rather to arrest of the hemorrhage than allaying the consequent nausea and vomiting. Now ergot enjoys preëminent credit as an hæmostatic, and its hypodermic administration affords the promptest mode of gaining its effect. Its action as a cardiac sedative must not be forgotten, and the pulse should be closely watched for this result. At the same time its tendency to act as a local irritant should be borne in mind.

But black vomit is only one of the dangerous symptoms liable to arise in yellow fever, and by no means the worst. Therefore, if complicated with other bad symptoms, such as renal degeneration, cerebral congestion, and other conditions which we attribute to destructive blood changes, in our ignorance of the precise pathological processes going on, we must not be sanguine of good results from ergot in black vomit; nor, on the other hand, should failure in such complicated cases operate to discourage us and cause distrust of the remedy in cases where black vomit is the chief or only bad symptom.

In opening the discussion of the paper, Dr. Salomon referred to an article on the Use of Ergot in Yellow Fever, read by himself at a meeting of this Association, in May, 1877, in which he advocated its administration in the beginning of the fever, to prevent congestion, and emphasized its utility in relieving the congestion, especially of the kidneys, which occurs in the course of the disease. He related his first case of fever this year, to which he was called at 2, P. M., three hours after the attack. The thermometer registered 104½° Fah.; later in the same evening, 105° Fah. On the third day, at 9, P. M., the patient ejected eight ounces of black vomit. Administered directly afterward ergotine gr. iv subcutaneously. At 11, P. M., the matter ejected showed only a trace of black vomit; at 1, A. M., none.

In the second case reported, the patient ejected two ounces of black vomit on the evening of the third day. Administered soon after ergotine gr. ii hypodermically.

Both cases related recovered.

During the epidemic, Dr. Salomon has treated three cases of suppression of urine in yellow fever by subcutaneous injection of Bonjean's ergotine, a preparation which he uses preferably. Of these cases, one proved fatal, two were relieved of the suppression by the use of ergotine and recovered.

Dr. Holliday thinks the Wernich extract a less irritating preparation for hypodermic use. In some cases of vellow fever has observed a complete arrest of black vomit; in others the intervals of vomiting lengthened, by administering ergotine subcutaneously. In certain cases, however, all remedies have been of no avail whatsoever. In cases of suppression of urine in yellow fever, the success expected has not attended the administration of ergotine. He regards early suppression in the fever, such as often occurs in hard drinkers, as one of the most fatal of symptoms, uninfluenced by ergot or any other drug: has observed this year a marked tendency to suppres. sion of urine in children, and the common occurrence of retention in adults. He has seen hamorrhages from the gums and nose controlled by ergot. He here recited three cases in his practice, in which black vomit had occurred as the simple result of swallowing blood from the nose and gums, as evidenced by two facts, the frequent occurrence of these hæmorrhages before the vomit, and the entire absence of the precursory symptoms of hæmorrhage from the stomach.

Dr. Crawcour remarked that he had given ergot in four cases of black vomit this year, without any positive benefit, and doubts its efficacy in such cases. Not a single case of suppression of urine has occurred in his fever cases of this year, but has observed more cases of retention than ever before. He regards many cases of suppression of urine as masked cases of Bright's disease, and to this fact ascribes the failure of remedies to relieve. During the last twelve months, while examining the urine for other diseases, has discovered the existence of Bright's disease in five cases, in which not another symptom was apparent to indicate its presence. Dr. Crawcour gave a large experience in the hypodermic use of Wernich's extract, also Squibb's tincture of ergot, and has yet to see the first case of abscess resulting therefrom. This exceptional experience he attributes to the use of small needles.

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Dr. Holliday related a case of Bright's disease, diagnosed last December, in which one-third of the urine gave an albuminous precipitate. After pursuing the usual course of treatment, in March there was only a trace of albumen in the urine, and the young man's health was much improved. In August he took yellow fever, with the temperature, in the early stage, ranging  $104^{\circ}-104^{\circ}$  Fah. Examination of the urine, three hours after the attack, gave a trace of albumen. A knowledge of his previous disease increased apprehension. For four days counter-irritants were applied over the lumbar regions, Appolinaris water was given freely, and the quantity of albumen never increased. The patient recovered, and the case was reported to show that, even when Bright's disease exists, the congestion of yellow fever is not always fatal.

Dr. Watkins said that he was doubtful of the efficacy of ergot in increasing the flow of urine, after partial or complete suppression and reported the following case: During the latter part of October, was called to a case of yellow fever occurring in the person of a strong stalwart German, about 36 years of age. The temperature of the body was high, and he suffered great prostration. The quantity of urine passed on the third day did not exceed one and a half ounces, and was highly albuminous. Cups to the lumbar region and counter-irritants were applied; demulcent drinks freely given. No ergot was given, and yet the patient, on the fourth day passed large quantities of urine, still highly albuminous, and finally succumbed to uremic poisoning on the fifth day.

Dr. Pettit spoke of a case of fever, in which the excretion of urine on the fourth and fifth day was very scanty. A copious flow followed the administration of tincture cantharides. The patient died.

Dr. Gourrier, now in the chair, observed that he had not seen a single case of yellow fever, with total suppression of urine, relieved by any treatment. Recalled a suspected case of suppression, in which an abundant flow of urine began, and that suddenly, without any remedy having been administered to explain the occurrence.

Dr. Crawcour reminded Dr. Holliday of a patient suffering-of

suppression of urine, once seen by them in consultation, who, after suppression of six days' duration, died in the possession of his mental faculties.

Dr. Holliday, in reply to Dr. Pettit's inquiry, remarked that he had seen a large number of cases of yellow fever, with albuminuria, recover. He then spoke of the number of fever patients with roseola, appearing on the third or fourth day, occurring more frequently in children, and presenting even the velvety redness of scarlatina.

Dr. Salomon had often observed the same eruption in his practice among children,

Dr. Beach having so often observed this eruption in the fever cases of past years, and this year having seen roseola, or some form of cutaneous eruption in every case of fever, is almost ready to acknowledge yellow fever an eruptive disease.

Dr. Layton mentioned thirty cases of fever in an asylum for children, recently attended by himself. Of these cases two died, and the remaining twenty-eight had, during convalescence, some form of cutaneous eruption, either roseola or a vesicular eruption around the mouth.

Dr. Holliday proposed for membership, Dr. J. P. Davidson. Dr. Watkins proposed Dr. T. J. Woolf.

On motion, the Association adjourned.

A. B. MILES, M. D.,

Acting Secretary.

# Diseases of the Skin.

ON THE USE OF SULPHATE OF COPPER IN SOME CHRONIC DERMATOSIS.

From Dr. B. BARDUZZI, of Pisa, read before the Eighth Italian Medical Congress.

[Translated from L'Independente, of Turin, 5th November, 1878.]

BY J. DELL ORTO, M. D.

Copper, like phosphorus, was employed seldom, and with distrust, in the olden times. Although its use has been long known, and recommended by Von Helmont and Boerhaave, its salts



are prescribed even at present with hesitation, on account of their toxic action on the system, as if they were to be more feared than arsenic or mercury.

If copper is not normally found in the human organism, it is though, one of the components of several celebrated mineral waters, such as those of Trianon, Luxenil, Buckneau, Rigolodau, Valmont, Aix-la-Chapelle Weisbaden, Bagnères, Levico, etc., and we firmly believe that the reconstituent action of the so-called ferruginous waters ought more to be attributed to the salts of copper, with which they are charged, than to the salts of iron, which are themselves too limited to determine a really curative influence.

The healing effects of sulphate of copper have been splendidly studied by Guersant, Pecholier, Saint Pierre, Schroeder, Margat, Trousseau and Gubler, and they came to the conclusion that it is one of the most active tonic agents of the materia medica.

Leaving aside the latest experiments of Gallippe, Mareau, Rabuteau, Pelihane, and their lively discussions on the tonic or poisonous action of the salts of copper, because the doses prescribed by me in the Hospital have been so small as not to cause any poisonous symptoms, I will only state that, according to experiments made by Dr. Levi and myself, both on horses and men, with doses of three grammes (sixty grains) in the former, and seven centigrams (one and a half grain) in the latter, sulphate of copper never produced any bad effects. On the contrary, it always created an increase in the process of assimilation.

We can easily explain this trophic action of the sulphate of copper obtained by our experiments: The more active contractility of the muscular fibres of the stomach and its vessels, which follows its administration, causes peptic excitation; so that the work of digestion is more complete, and hence more materials are absorbed and brought into the circulation.

What explains the good results obtained by this salt in chronic dermatosis, is the immediate reddening of the mucous membranes and of the skin, after a few doses; the truly increased action of the red corpuseles by oxygen, induces more

activity in the transformation, and fixation of the products of absorption, and hence also in the skin.

From what I have exposed, it is plain that sulphate of copper is indicated in those diseases of the skin that are caused by a state of atony, or perversion of the processes of nutrition and assimilation.

The following cases treated by me in the Hospitals of Tisa, are a convenient proof:

Case I.—B. P., female, age forty-two, came to the Hospital with all the symptoms of pellagra in its second stage: great emaciation, melancholy, low-spirited, peculiar earthy looking color of the skin, weak pulse, erythema on the dorsal regions of the hands, complicated with sores, diarrhea, loss of appetite and sleep. Prescribed one pill of one centigram (one-fifth of a grain) of sulphate of copper to be taken every day. On the fifth day the dose was increased to three centigrams; on the tenth to four, and on the fifteenth to five centigrams (one grain). At this last dose the medicament was continued for twenty days longer. Patient bore the treatment. In a few days the diarrhea stopped without any other remedy; sleep and appetite returned; erythema disappeared (local lotions of glycerole of starch), and she left the Hospital after one mouth of treatment.

CASE 2.—S. L., female, aged 52, married, a peasant woman. Has been in the hospital from the 2d of August to the 2d of September, 1877, for pellagra at its first stage. When she was admitted she presented all the symptoms of this disease, especially a deep melanchoita, refusing to talk to anybody, and preferring to be let alone and cry. Prescribed sulphate of copper in the same doses as in the above case, and very soon with good results. Her appetite returned, diarrhœa ceased. After a few days she became more social, talking and thinking again of her family and household duties, so that after forty days she was able to leave for the country perfectly cured.

CASE 3.—M. A., aged 23, female, herpes-zoster at her chest, complicated with a very grave chloro-anemia, amenorrhea, emaciation, cough, insomnia, and dyspepsia. Sulphate of copper given in the same doses, and increased to five centigrams

a day. After one month she left the hospital feeling very well.

CASE 4.--F. R., aged 63, male; admitted in the hospital on the 17th January, 1877, for a cachectic and diffused eczema. Submitted to the treatment of sulphate of copper. After one month he was not only perfectly cured of the dermatosis, but also a great deal improved in his general constitution, and very soon was able to go to work.

CASE 5.—A. G., six years, female; of a scrofulous constitution. Came to the hospital on the 12th of March for simple eczema diffused to the chest. Sulphate of copper was commenced with one centigram divided in two doses, and so increased gradually to five centigrams a day, with a remarkably quick recovery, and on the 7th of April she left perfectly well.

CASE 6.—L. P., male; remained in the hospital only fifteen days. He came in for a light eczema of the hands. He looked very poorly nourished. Improved pretty soon under the daily treatment of sulphate of copper, from one to six centigrams, without feeling any bad symptoms.

Case 7.—B. T., aged 18, female; unmarried and scrofulous. Came to the hospital on the 20th April, 1877, with impetigenous eczema in its secreting stage, extended to the whole surface of the body. Under such a serious condition, she was immediately submitted to the use of mucilaginous bathings externally, and sulphate of copper internally, with the addition of chloral at night to relieve an obstinate insomnia. For a few days the eruption was modified; secretion became very scarce, and at the end of twenty days it was already in the state of dessication. We insisted on the use of sulphate of copper during two months, increasing it to seven centigrams, and continuing at this dose for twenty days. The result was splendid. Not only every trace of the disease of the skin had disappeared, but the general constitution of this patient became excellent. Her weight was increased fifteen pounds; good appetite returned; the mucous membranes and the skin became rosy, and her menstruation became, for the first time, well and regular.

CASE 8.—On the 10th of June, 1877, B. F., age 50; male; a laborer; came to the hospital for pellagra in its first stage, with symptomatic eczema of the hands, diarrhea, loss of appetite and sleep, melancholy, and general emaciation. Prescribed immediately sulphate of copper at the dose of two centigrams a day in two doses, and increased gradually to seven. He soon recovered. I could relate many other cases to prove the good effect of sulphate of copper on hypertrophies, anæmies, and especially on affections of the skin caused by them. From the experiments I have made, and the clinical facts that I have observed during two years in the dermo-syphilopathic wards of the hospitals of Pisa, I have come to the following conclusions:

1st. That sulphate of copper is a very useful remedy in those diseases of the skin which are produced by a deficiency or atony of nutrition, or by poorness of the blood, such as pellagra, scrofula in all its forms, chlorosis, etc., and therefore it is worthy of a trial.

2d. Its trophic action is rapid, constant, and innocent.

3d. That the simplest and essiest way of its administration is in pills, in progressive doses, from one or two to seven centigrams a day.

## CURRENT MEDICAL LITERATURE.

THE TREATMENT OF VARIX BY THE SUBCUTANEOUS INJECTION OF ALCOHOL.

A new method of treating varicose veins was described by Dr. Englisch at a recent meeting of the Vienna Medical Society. By means of an ordinary hypodermic syringe, from fifteen to twenty drops of a mixture of alcohol and water, in equal parts, are injected into the cellular tissue beneath the vein, which, together with a fold of the skin, has been previously raised by the thumb and forefinger. The injection gives rise to a small swelling, and on close observation the vein may seem to contract. More or less infiltration is observed on the third day, and in very sensitive patients the skin is apt to become red,

and even a small abscess may form, the vein itself not becoming involved in the suppuration. As the infiltration becomes firmer and smaller the vein also diminishes in size, and gradually becomes hard and cord-like. In some cases one such injection may suffice to effect a cure of the varix, but in the majority the operation has to be repeated several times. The results are most successful when the dilated veins form a plexus, but the treatment is more difficult when there are many branches. The pain during and after the operation is very slight; the length of time required for the subsequent treatment varies according to the gravity of the case. In cases where the result is not entirely successful, the operation appears to be a valuable auxiliary to other palliative measures. Dr. Englisch claims for his method that it is absolutely free from danger. He was induced to make trial of it for the cure of varix in consequence of the excellent results he obtained from the use of similar injections for the radical cure of Hernia.-(Medical Examiner, No. 112, 1878.) Practitioner, May, 1878.

### TREATMENT OF AMENORRHŒA.

Prof. Courty employs a pill composed of powdered rue, savin, and ergot, of each five centigrammes (2-3 gr.) and aloes from 2-5 centigrammes. Of these thirty are ordered, and three are taken the first day, six the second day, and nine the third day, always in three doses. They are suited for cases of idiopathic amenorrhoa, without great reaction on the economy and when there is reason to suppose that the suppression of the menses is due either to an insufficient determination towards the genital organs or to a difficulty of discharge due to inertia of the uterus. In order to encourage the fluxion towards the genital organs, Dr. Courty orders, before beginning the pills, foot-baths, sitz-baths, and fumigations. He also applies leeches to the labia during the three days the pills are being taken. The pills generally induce colicky pains and often a little diarrhoa. (Union Médicale, Fig. 19.) Practioner, May, 1878.

#### NOTES ON INTERMITTENT ALBUMINURIA.

The late volume of Guy's Hospital Reports contains a very valuable and interesting paper by Dr. Moxon on "Chronic Intermittent Albuminuria." Dr. Moxon specifies the existence of a remittent form of the disease as well, but continues his discription of cases to the first variety. Probably it is not possible to draw a clear line of distinction between the two, but that they pass by intermediate forms the one into the other. Dr. Moxon has had no experience of the disease, except in young men; on the other hand, the two or three cases I have seen have been in young women, or rather in growing girls between the ages of fourteen and sixteen, and all of them suffering under anæmia, with a bruit de diable in the cervical veins. There is

one special point connected with these cases not commented on by Dr. Moxon, to which I wish to draw attention: viz, that, if such cases be kept in bed or strictly in the recumbent position, the albumen will disappear altogether; at any rate, this is my experience. In one case, occurring in a young relative of my own, and in whom I have made some hundreds of observations. examining the urine night and morning for many weeks together, I never once obtained albumen in that passed on first leaving bed in the morning; and it was this fact, when first noticed, that led me to order the patient to be kept in bed altogether. She was so kept for three weeks, and albamen never once appeared the whole time. Although during this period she grew quite fat and lost apparantly her complaint, she was so evidently not improved in health that I could not continue the experiment; but the very first day that she left her bed the albumen reappeared. Several times since, for trifling ailments, as a cold, she has stayed in bed an odd day or so, and the albumen has disappeared. In another case, I have made a similar experiment, though not carried to the same extent, and with a similar result.

That the albumen can be made to appear and disappear in such a singular manner, simply according to the position of the body, proves almost indubitably the mechanical nature of the affection, or, as Sir. W. Gull says, that it depends upon atony of the vessels and nerves. When the body is in the upright position, the weight of the column of blood is too much for the

weakened vessels.

The case on which my observations have been chiefly founded has now been going on for nearly two years, and indeed may have been longer, as the patient had been very languid and anæmic for some months before; but it had not been considered necessary to examine the urine. However, although the albumen still continues in the evening urine, she is steadily gaining in health and strength. I feel certain, from the numerous conversations that I have held with different professional brethren, that the existence of this malady is very little known to the great mass of practitioners, and it is evident that the knowledge which Sir W. Gull has of its common occurrence in young men arises from his laudable practice of universally testing the urine.

T. MORELY ROOKE, M. D. Lond., Cheltenham.

—British Medical Journal, October 19, 1878.

#### THE REASONABLE THEORY OF MALARIA.

By J. W. McCall, Huntlingdon, Tenn.

The etiology of malarial disease and what it is, has puzzled the minds of the best informed medical men of the age. It is a problem that has never been satisfactorily solved. Page upon page has been written on the subject, theory after theory has been advanced, elaborate articles occasionally make their appearance in the journals attempting to establish some fancied or well-founded theory of the disease, but they all fail to shed that light on the subject necessary to give satisfaction to

the enquiring mind.

It is not intended, if the writer felt able to do so, to enter into an argument against, or to discuss the merits of these various theories. It is merely desired to call the attention of the medical profession to what seems to be a reasonable theory of what is known as "malarial fever," taking chills and fever as the type. The one proposed as a reasonable theory is the parasitic theory. It is thought that these parasites come from vegetable decomposition. When the thermometer rises to 60° F., and remains at that height some time, and there is moisture and dead vegetable matter present, fermentation and decomposition result. It is assumed that this decomposition causes the generation or formation of what is conveniently termed "malarial parasitic germs," which rise in the atmosphere and are inhaled into the lungs with the air we breathe, and absorbed into the circulation through the bronchial mucous membranes. Less frequently do the germs find their way into the blood by absorption from the alimentary canal, and when this is the case it will be found upon investigation that the water used is loaded with decomposing vegetable matter, and as a consequence the "malarial parasitic germs," notwithstanding they have never been demonstrated in the laboratory or by the microscope, the periodicity and course of the disease is enough to warrant the assumption of the existence in the system of a person laboring under chills and fevers of a swarm or crop of organic bodies, that have a regular stage of latency, or a stage of incubation, stage of active life and death, as is proven by observing the course from the termination of one paroxysm to the termination of the next. It matters not which of these routes is taken, through the lungs or alimentary canal, by the little intruder, it finally reaches the place most suitable to its habitation, the internal viscera, and especially the liver and spleen. It is not presumed that these germs have any affinity for these two organs in preference to any other; it is thought that their arrest there is in consequence of the more difficult circulation of the blood through their complicated structure. Every organ suffers more or less in proportion to the degree of vital resistance with which it is endowed; thus, if there be a weak and sluggish capillary circulation of the brain or nervous centres, cerebral or spinal symptoms may be expected, and the same of every other organ similarly affected. When the excretory organs are in an active and healthy condition these germs, if not too numerous, may be thrown off like other effete matter of the body, and no appreciable disease is left; on the contrary, if the system be in a debilitated condition from any cause that tends to lower and impair the activity of these depurating organs and there is a sufficient amount of germs in the blood, if no prophylactic be used, disease may be confi-

dently looked for.

The assumption is that these germs, or seed, germinate and grow to full maturity and decay, leaving seed in the liver and spleen for their future propagation once in 24, 48 or 72 hours. When the system is in a favorable condition for their production, this evolution of life, as stated before, happens once in 24 hours, when less favorable in 48 hours, and still less in 72 hours.

Each paroxysm has four stages, to wit:

1. Stage of incubation, or latent stage.

2. Chill, or stage of influx of blood.

3. Fever, or reacting stage.

4. Sweating, or depurating stage.

When in the latent stage, or stage of incubation, the patient has comparative health. This ends in the germination of millions of living, organic bodies in the liver, spleen and other internal organs. It is not surprising that the irritation set up by their presence induces an internal flow of blood to the parts, carrying out a well established physiological fact, that where there is an irritation, to that part the blood flows; this constitutes the chill or stage of influx of blood, or congestion, and if the vital force is not sufficient to subdue the enemy at this point the patient never rallies, but dies with congestion. In more favorable cases reaction comes on, or fever, or a return of the blood to the peripher a capillary; after a time the fever passes into the sweating stage, with an increased discharge of urine and bilious matter. These excreting organs (the liver, kidneys and skin) are the scavengers of the body, serving not only to throw off the ordinary effete matter, if the body is in health, but also the materies morbi resulting from or the cause of disease.

There is no successful plan of treatment, when well understood, but what tends to strengthen and establish the parasitic theory. All of the tried and approved remedies for chills and fever are the known parasiticides and this is a fact of considerable importance in support of the parasitic origin. Sulphur and arsenicum in some form are at the top of the list of remedies. Arsenic acid, Fowler's solution, sulphate quinia, sulphate quinidia, sulphate cinchonidia, sulphate cinchona, sulphate soda, hyposulphate soda. Did any one ever think seriously of the amount of sulphur entering into the composition of the best remedies in use, and the part it plays in the cure of chills and fever. If it has never had a passing notice, attention is called to the subject by putting the following question, and it is hoped that some one will answer it: Is the success of the sulphate of the salts of Peruvian bark more attributable to the salts of the bark entering into its composition than to the

sulphur?

Any remedy that acts freely upon the liver, exciting copious bilious discharges, will cure or greatly ameliorate malarial fever; the modus operandi is clear, the liver being one of the greatest depots for these germs and one of the most important eliminating organs in the body, the irritation produced by their presence causes the whole organ to become swollen or congested and for a time checks the biliary secretion. Under such circumstances, if an active cholagogue be administered, and the liver is thoroughly aroused to the secretion of bile, these parasitic germs are dislodged in the same way that a gorge in a stream would be cleared out by greatly increasing the volume of water above.

There are three elements to be observed in the analysis of the treatment of malarial diseases founded upon this *reason-able* theory, to wit:

- 1. A parasiticide, or a remedy that kills the germs or parasites.
- 2. An eliminator, or a remedy that excites the secretory action of the excretory organs.
- 3. A tonic, or a remedy that gives tone to the muscular fibre, acting as an auxiliary to the second element.

Taking this view of the treatment, it is not surprising that remedies so dissimilar in their therapeutic action should have the deserved reputation of curing the same disease.—Nashville Journal of Medicine and Surgery, September, 1878.

### PRURITUS VULVÆ TREATED WITH SULPHUROUS ACID.

BY EDWARD B. STEVENS. M, D., Lebanon. Ohio.

I was recently consulted by a lady complaining as follows: Severe pruritus of the labial surfaces, extending to the external genitals, with an erysipelatous rash covering these surfaces, and at the same time an abundant leucorrheal discharge. She had applied a variety of lotions to the itching, burning parts without avail:—the leucorrhea had been of some time standing; general health good; supposes herself approaching the menopause, age 46.

Upon examination found an erysipelatous rash covering the labia and flaming up over the pubic region towards the lower surface of the abdomen; it was angry looking and eczematous, with a watery exudation; on introducing the speculum found the rash occupying the labial surfaces and extending up over the outlet of the vagina. The superior portion of the vagina and cervex of the uterus were perfectly healthy in appearance, whereas I had expected to find abrasion of the os, or some condition of chronic inflammation as the reason for the leucorrhœal discharge. Instead I found the red point of a small mucous polypus about the size of a large pea showing itself at the os. I had no difficulty in grasping the pedicle of this small polypus with slender forceps and snipping it off

with curved scissors. I suppose the polypus was the irritant that produced the leucorrhea—and as I expected, its removal

almost entirely arrested the discharge.

For the pruritus and burning, I directed the parts to be freely bathed with sulphurous acid in full strength. The result was a prompt and entire relief. Subsequently there was a partial return for several times of the rash and pruritus, but always completely and promptly relieved as at first by the free application of the sulphurous acid.

My attention was called to the efficacy of sulphurous acid in kindred cutaneous troubles, by a paper read a year ago to the American Dermatological Association by Dr. L. D. Bulkley, of New York. He regards the group of cases he described in that paper, as not only eczematous, but as having a parasitic origin, which he found to be uniformly corrected by the application

of this acid.

Shortly before the present case came into my care, a lady applied to me with eczema of the face and neck, that, under the care of one of my most intelligent medical friends, had resisted all reasonable treatment, constitutional and local, for many months. Dr. Bulkley's cases being fresh in my mind I laid aside all constitutional remedies, and directed the parts to be freely bathed with sulphurous acid, full strength, with the effect to afford perfect and, as Bulkley expresses it—" exquisite relief." The acid was reapplied from time to time as the itching recurred, and the cure is now complete, the skin having lost its scaly condition and become as smooth as an infant's.

Some writers direct the application of sulphurous acid variously diluted—as with water, or glycerine. My experience, in a few cases only, agrees with that of Dr. Bulkley, that there is no necessity to dilute the acid even for very delicate surfaces. I therefore direct the acid to be kept closely stopped, in bulk—and the patient to have an ounce ground glass stopper vial, which is kept supplied from the larger bottle for use; due care being observed to avoid as far as possible atmospheric influence upon the acid. I advise the parts affected to be well saturated whenever the itching calls attention to the disease.

Pruritus vulvæ is frequently an obstinate affection, but I have hitherto found cases which were evidently eczematous, and my experience in the foregoing case is given simply as affording an additional rational therapeutic remedy, especially when the pruritus is associated with this condition of parts.

Obstet. Gaz. Oct. 1878.

### THE TREATMENT OF HIRSUTIES.

Transactions of the American Dermatological Association.

Dr. Michel, an ophthalmologist of St Louis, had for some time successfully employed electrolysis for the removal of "wild hairs" from the eyelids, and this had induced Dr. Hardaway to make use of the same method in dermatological practice. The method employed was as foilows: The patient should be seated in a reclining chair, and facing a good light. The needle-holder is then attached to the negative pole of the battery, and an ordinary electrode, covered with a moistened sponge, is connected with the positive pole. Under a lens of about two inches focus, the needle is inserted the requisite depth into the follicle; the circuit is then completed by the patient pressing the spongeelectrode (anode) against the palm of the hand. The electrolytic action is allowed to go on until the peculiar white frothing is seen to well up around the insertion of the needle, when the current is at once interrupted by the patient releasing the positive electrode: after which the needle is withdrawn. Occasionally the hair comes away adhering to the needle: but generally it is necessary to remove it with a pair of epilation forceps. No force, however, should be used in extraction, for if the hair does not come away readily, it is an evidence that the operation has failed, and it should then be repeated. Dr. Hardaway went on to say that the smaller the battery the longer would be the time consumed: but if a large battery were employed, the pain would be proportionally increased. With a good battery of eight elements, the desired result could be accomplished in from two to five seconds, and with a trifling amount of pain. Dr. A. E. Prince, of Jacksonville, Illinois, had used this method with very great success, and had invented a very ingenious and useful needle-holder for the operation. He preferred to use from five to ten cells of the Hill battery, which was a compromise between pain and speed. Dr. Hardaway referred to the works of Neumann and Piffard, in one of which the galvano-cautery, and in the other electrolysis, is recommended in hairy nævi; and then stated that Michel was the first to urge and systematize this method for the removal of superfluous hairs, and had taught the operation in his ophthalmic clinic for at least four years before its publication. Where electrolysis was not practicable. Dr. Hardaway used successfully a single drop of a solution of chloride of zinc (of the strength of two drachms to three drachms of water) injected into the hair follicle by means of a hypodermic syringe.

Dr. Piffard, in commencing his remarks on the paper, said that he had employed electrolysis for the purpose mentioned as early as Dr. Michel; but the latter certainly had the priority in publication. He did not see how these gentlemen were able to get the needle into the follicle while the hair was still there, on account of its minnteness. At first, he said, he had employed his own method only in the case of hairy nævi, but now he was in the habit of applying it whenever superfluous hairs were to be removed, provided they were not too small. He thought a steel needle might rust, and so had used a platinum one, adding a sufficient quantity of iridium to it to give it necessary stiffness. He was very much pleased with Dr. Prince's ingenious needle-holder, and had no doubt it would greatly facilitate

the use of electrolysis. He did not think it was practicable to get into the very small follicles, and indeed it was only necessary to get sufficiently near the folliele, in order to accomplish the work of destruction. This, he thought, would account in great measure for the success which Dr. Hardaway met with. He denied that Neumann ever got into the follicle at all in his galvano-cautery operation, for it would certainly be most extraordinary if two wires could be introduced, without touching each other (as was essential to the process), into so small a cavity as that of a hair follicle. In Neumann's operation there must necessarily be a great deal of burning of tissue, and this would leave an unsightly scar. When electrolysis was employed, however, very little, if any, scar remained. He considered Hill's battery probably the best for the purpose, for although the current obtained from it was moderate, it was of great steadiness, and no sparks were produced by it, a matter of some importance in working about the head. He was not accustomed to wait for bubbles of hydrogen, but discontinued the current as soon as the white line appeared around the follicle. On the whole, he thought the operation a very successful one after a little practice with it.

Dr. Fox thought the statement in the paper, that the pain was slight, was liable to mislead. Certainly, when a large number of hairs were to be removed, the operation was anything but a painless one, even with the use of all possible precautions. In some instances the follicles were destroyed, and in others not: and if the latter was the case, the hairs would return. He thought, therefore, that it was desirable to use as small a needle as could be inserted to the bottom of the follicle. The irido-platinum needle of Piffard was preferable to a cambric needle (employed by Dr. Prince), as it could be drawn out more finely. Personally, however, he was in favor of using platinum-wire only, as it did not double up, as had been apprehended by Dr. Piffard, and passed into a folliele very much as a bougie passed into the bladder. He used only from four to six cells, on account of the less pain occasioned by a weak current, and followed Piffard in extracting the hair before applying electrolysis. A bright light was necessary, in order that the patulous orifices of the follicles might be seen, and this was often very trying to the eyes of the operator, especi-

ally if the séance was a long one.

Dr. Taylor said that he had been using electrolysis for three or four years, and he employed a very delicate irido-platinum needle for this purpose. He considered the matter of pain quite an important element; and, in consequence of this, several séances were ordinarily necessary. He had had good results from this method in the treatment of comedones.

Dr. White inquired if the effect was permanent, and in

reply—

Dr. Fox said that no case should be reported until after a

considerable time had elapsed. In one case he had removed as many as five hundred hairs, and, although the result was not perfectly successful, it was fairly encouraging. Sometimes hairs would return three months after removal.

Dr. White then inquired if any gentleman present had succeeded in permanently removing fifty per cent, of hairs?

Dr. Piffard replied that in his experience, if the hairs were moderately large, about seventy-five per cent. would never return. The radical cure depended on the destruction of the papilla, and sometimes imperfect hairs would afterward make their appearance if the destruction were incomplete. It was impossible to get any satisfactory results whatever if the hairs were very minute.

Dr. Taylor stated that in his earlier cases he failed in permanently removing about half the hairs, but now he could

generally destroy almost all of them.

Dr. White said that he had tried the chloride of zinc in two cases, and his success with it had not been such as to warrant him in resorting to it again. He found that it caused great irritation of the skin.

Dr. Heitzmann thought that it was better to postpone any definite opinion on the subject of epilation for the present. He used to think that he got excellent results; but, after a longer or shorter period, the hairs almost always returned. He had used a nickel-plated pin dipped in strong nitric acid, sometimes pulling out the hair first and sometimes leaving it in situ. From his past experience he confessed that his faith in electrolysis was not at all sanguine; but he at all events thought it worthy of trial.

Dr. Taylor replied that he did not think Dr. Heitzmann's method comparable to electrolysis. He doubted very much whether any of the nitric acid at all got to the bottom of the follicle, while in electrolysis the destructive agent was applied

just where it was desired.

Dr. Duhring remarked that he had recently been experimenting in about half a dozon cases with a three-sided needle, and with fairly successful results. He introduced the needle directly into the follicle, and then gave it three or four turns, until a small drop of blood made its appearance. In order to succeed with this method it was necessary that the hair should be of pretty good size, and that both the papilla and the walls of the follicle should be destroyed. It had been suggested to him by Dr. Bulkley.

In answer to a question by Dr. Fox, Dr. Dubring stated that the operation was unaccompanied by pain.—Archives of

Dermatology.

#### INCUBATIVE PERIOD OF SCARLET FEVER.

Murchison, in an analysis of seventy-five cases of scarlet fever, arrived at the general conclusion that in not one did the incubative period exceed six days, in forty-four it did not exceed four days, in sixteen not more than two days, and in fifteen not more than twenty-four hours. Cases are given in which there was no incubative period, Dr. Richardson's personal experience of the almost instantaneous effects from exposure is alluded to, and Trousseau is quoted in a case in which the disease manifested itself seven or eight hours after the entrance of the poison into the system. M. says that, if after exposure to the scarlet fever virus, a person be subjected to a week's quarantine, and remains free from the disease, he is safe; he also believes that it is probable that a person may communicate scarlet fever to another person during the period of incubation. (Clinical Society of London).—Lancet, June 8, 1878, p. 833.—Archives of Dermatology.

### DETERMINATION OF SEX BY THE DATE OF CONCEPTION.

BY J. B. SWIFT, M. D., HARV.

While studying the reproductive organs in the microscopical laboratory of Dr Carl Heitzmann, of New York, last winter, Dr. Heitzmann advanced the following theory in regard to the determination of the sexes. The ovum represents the female element, the spermatozoa the male. We know that it requires only a few spermatozoa, perhaps a single spermatozoön, to impregnate an ovum. If an ovum becomes impregnated by a few spermatozoa, the female element will be in excess and the result will be a female. If, on the other hand, a good many spermatozoa impregnate the ovum the male element will preponderate, and a male will result. Now, if an ovum is high up, that is, in the ovary or at the fimbriated extremity of the Fallopian tube, probably only a few spermatozoa will come in contact with it. But if the ovum is low down then many spermatozoa come in contact with it.

If menstruation and ovulation are dependent the one on the other, as many authorities affirm, then the situation of the ovum may be determined by the menstrual period. During the interval between the periods the ovum is in the ovary. Just before the flow begins the ovum may be on the surface of the ovary or in the fimbriated extremity of the Fallopian tube. As menstruation goes on the ovum descends, and the flow may entirely cease before the ovum is discharged. Then it is low down in the Fallopian tube or even in the uterus itself.

Now if coition takes place during the interval between two periods, or just before menstruation begins, the ovum being high up, only a few spermatozoa pass up the Fallopian tube and reach it; but if coition is just after menstruation, then the ovum is within the reach of many spermatozoa.

Stock breeders understand this. If they want a female they

put the two sexes together at the beginning of the rutting period, but if a male is desired they wait until the female has been in heat some time.

During my term of service in the Boston Lying-In Hospital, I had several opportunities of testing this rule, and have col-

lected twenty of these cases which bear it out.

I excluded those cases where there seemed to be any doubt at all in regard to the statements, and all married women, except three, where the exact dates were given.

In twelve cases the data were obtained before delivery, and

in all these the sex was predicted correctly,

In looking over the records of the hospital I found five cases which were noted as single connections, and the dates given. In all these the result conforms to the theory. In three instances the data were not obtained until after delivery. Two of the cases were in the hospital when I came on duty, and the other was kindly furnished by Dr. W. L. Richardson from his private practice. The cases are as follows:

I. A. S., twenty, single, primipara. Catamenia last seen June 18, 1877. Connection June 20, 1877. Delivered of a male

child March 19, 1878. Data obtained after delivery.

II. A. McK., twenty, single, primipara. Catamenia seen the end of May, 1877. Connection a few days after the flow had ceased. Delivered of a male child February 28, 1878. Data

obtained after delivery,

III. Dr. Richardson's case. A married woman, who desired not to have children, was told not to have connection until a week after the flow had ceased, nor within a week of the next period. She had connection the ninth day after she stopped menstruating, and became pregnant. She was delivered of a temale child. Data obtained after delivery.

IV. S. S., twenty-six, single, primipara. Catamenia April 1, 1872. Single connection April 5, 1872. Delivered of a male

child. Taken from the hospital records.

V. M. G., eighteen, single, primipara. Catamenia March 29, 1873. Single connection April 13, 1873. Delivered of a female child February 10, 1874. Taken from the hospital records,

VI. M. R., eighteen, single, primipara. Catamenia last seen July 16, 1873. Single connection two weeks before (July 4th). Denvered of a female child May 9, 1874. Taken from the hos-

pital records.

VII. W. C., twenty-two, single, primipara, Catamenia January 11, 1874. Single connection just after. Delivered of a male child October 14, 1874. Taken from the hospital records.

VIII. S. Y., eighteen, single, primipara. Catamenia June 30, 1874. Single connection July 4, 1874. Delivered of a male

child April 21, 1875. Taken from the hospital records.

IX. M. W., nineteen, single, primipara. Catamenia last seen during last week of May and first week of June, 1877. Had connection on two successive nights two weeks after the flow had ceased. Was delivered of a female child March 9, 1878.

Sex was predicted.

X. M. H., twenty three, single, primipara. Catamenia last seen June 24, 1877. June 29, 1877, had a single connection. Was delivered of a male child March 23, 1878. Sex was predicted.

XI. E. D., twenty-one, single, primipara. Catamenia last seen June 20, 1877. Single connection July 4, 1877. Delivered

of a female child March 30, 1878. Sex was predicted.

XII. M. II., eighteen, single, primipara. Catamenia last seen June 18, 1877. Single connection a few days after flow ceased, Delivered of a male child March 23, 1878. Sex was predicted.

XIII. A. L., twenty-one, single, primipara. Catamenia last of July, 1877. Connection the day the flow stopped, and twice afterwards during the month. Was delivered of a male child April 1, 1878. Sex was predicted. The prediction was made in this case because symptoms of pregnancy appeared immediately after the first connection. This was a small child, probably born at the eighth month.

XIV. K. W., twenty two, single, primipara. Catamenia stopped July 4, 1877. Single connection July 15, 1877. Delivered

of a female child April 15, 1878. Sex was predicted.

XV. S. M., nineteen, single, primipara. Catamenia last seed during the first week of June, 1877. About the time of the next period, namely, July 4, 1877, had connection and "no show." Delivered of a female cuild April 3, 1878. Sex was predicted. Conception took place just before menstruction.

XVI. From Dr. Richardson's private practice. A married woman, who having halone caild desired no more. She was very careful to have connection only just half way between two menstrual periods. She was delivered of a female child in May,

1878. Sex was predicted.

XVII. F. W., hineteen, single, primipara. Catamenia last seen August 1, 1877. Connection a few days after. Delivered

of a male child May 3, 1878. Sex was predicted.

XVIII. H. D., twenty-one, single, primipara. Catamenia appeared July 25, 1877, and lasted one week. August 5, 1877, that is, four days after they ceased, had a single connection. Was delivered of a male child May 4, 1878. Sex was predicted.

XIX. C. L., thirty-two, married, third child. Catamenia last seen August 15, 1877. Her husband, "a traveler tor a firm," came home August 26, 1877, and stayed until September 12, 1877. She has not seen him since. Was delivered of a female

child May 18, 1878. Sex was predicted.

XX. A. B., twenty-four, single, second child. When fourteen years old she was seduced and had a child, since which time she has been insane. On the 17th of September, 1877, she came to Boston from the Worcester Insane Asylum, with her mother to see the procession. She was lost in the crowd, and the next morning found in a house of ill-fame. She menstruated last from August 26 to September 1, 1877. Was delivered

of a female child June 8, 1878. Sex was predicted.

I am aware that this theory conflicts with most, if not all, of the accepted theories on the subject of conception, and that the cases here presented are too few in number to establish any exact rule, but it certainly seems to me that the results obtained are extremely interesting and would warrant a further investigation of the subject.—Boston Medical and Surgical Journal, September 26, 1878.

### 'IODOFORM FORMULÆ.

The Allgemeine Med. Central-Zeitung for September 21, extracts from No. 18 of the Mittheilungen des Vereins der Ærzte in Neideræterreich some remarks on iodoform, and several formulæ for

the use of this remedy.

Iodoform is given in doses of from 5 to 10 centigrammes (3 to 1½ grain) three or four times daily, in solution in ether, in powder, or in pills. For ointment, one part of iodoform is mixed with eight or ten parts of fat at the temperature of a water-bath. Rubbed to a fine powder, it is used for sprinkling and dressing varicose ulcers, cancerous and syphilitic ulcers, anal fissure, etc. Mixed with lycopodium, it is used for insufflation in vagina, and for sprinkling in the vulvitis of children.

Righinis Iodoform Paper.—Take of starch 20 parts, cold water 15 parts. Mix, and add 100 parts of boiling water, or enough to make a softish paste, to which add 10 parts iodoform. The paste is then spread thinly on bibulous paper. The paper is used for disinfecting dwelling and sick rooms, strips

being laid in different parts of the room.

Iodoformised Collodion (Moretin).—Dissolve five parts of iodoform in 100 of collodion; mark "For external use." Used in

arthritis and rheumatism.

Iodoform Suppository (Purdon),—Iodoform, one part; cacao oil, 25 parts. For application to the cervix or cavity of the

uterus as an anodyne.

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Antirheumatic Pills (Knoll).—Iodoform, reduced iron, each 3 grammes (46½ grains); purified liquorice juice, enough to make 60 pills, to be sprinkled with lycopodium. Two to be

taken three times daily.

Antirheumatic Pills (Purdon).—Iodoform, 2½ grammes, reduced iron, 1 gramme; tiquorice juice, 4 grammes; water sufficient to make 50 pills. Two or three to be taken every two or three hours in neuralgia and rheumatic affections

Iodoform Pills.—Iodoform, extract of gentian, of each 5 grammes; gentian root (powder) sufficient to make 100 pills.

From three to five to be taken twice or thrice daily in scrofula,

amenorrhœa, and cancer.

Ethereal Solution of Iodoform (Gubler).—Iodoform, two parts; dissolved spirit of wine, ether, of each four parts. To be painted over the painful parts in chronic arthritis, with a camel-hair pencil; the parts to be afterwards covered in with oiled silk.

Antihamorrhoidal Suppositories (Hillairet and Purdon).—Iodoform, 2½ grammes; cacao-oil, 40 grammes; yellow wax, 5 grammes. Mix at a gentle heat, and make ten suppositories.

Iodoform Ointment.—Iodoform, 5 parts; hog's lard, 45 parts; to be melted together at the temperature of a water-bath, and stirred until cool. To be marked "For external use." In pruritus, prurigo, chronic eczema, fissures, and painful ulcers.—Cincinnati Lancet and Clinic.

## MANAGEMENT OF THE BREASTS WHERE NURSING IS NOT ADOPTED.

At a meeting of the New York Academy of Medicine a discussion took place as to the best way of dealing with the breasts in cases in which the child was still-born, or the mother not disposed to nurse her child. Nearly all the speakers agreed that the best plan was to let the breasts entirely alone. Dr. Hubbard said that such had been his practice during his connection with the lufant Asylum, where most of the mothers did not nurse their children, and during the whole of that period there was not a mammary abscess formed. The pain in the breasts subsided, as a rule, within twenty-four or fortyeight hours, and no further trouble was experienced if no attempt was made to draw the milk. If the milk was drawn only once, the character of the case was entirely changed. This method of treatment appears to us quite rational, and if at the same time the bowels are kept freely open and the diet restricted, it will generally be successful. - Cincinnati Lancet and Clinic.

## MEMORANDA FOR DIAGNOSIS OF CASES OF INTESTINAL OBSTRUCTION.

### BY JONATHAN HUTCHINSON, F. R. C. S.

1. When a child becomes suddenly the subject of symptoms of bowel obstruction, it is probably either intussusception or peritonitis.

2. When an elderly person is the patient, the diagnosis will generally rest between impaction of intestinal contents and

malignant disease (stricture or tumor).

3. In middle age, the causes of obstruction may be various; but intussusception and malignant disease, both of them common at the extremes, are now very unusual.

4. Intussusception cases may be known by the frequent straining, the passage of blood and mucus, the incompleteness

of the constipation, and the discovery of a sausage-like tumor either by examination *per anum* or through the abdominal walls.

5. In intussusception, the parietes usually remain lax, and, there being but little tympanites, it is almost always possible, without much difficulty, to discover the lump (or sausage-like tumor) by manipulation under ether.

6. Malignant stricture may be suspected when, in an old person, continued abdominal uneasiness and repeated attacks of temporary constipation have preceded the illness. It is to be noted, also, that the constipation is often not complete.

7. If a tumor be present and pressing on the bowel, it ought to be discoverable by palpation, under ether, through the abdominal walls, or by examination by the anus or vagina, great care being taken not to be misled by scybalous masses.

8. If repeated attacks of dangerous obstruction have occurred, with long intervals of perfect health, it may be suspected that the patient is the subject of congenital diverticulum, or has bands of adhesion, or that some part of the intestine is pouched and liable to twist.

9. If, in the early part of a case, the abdomen becomes distended and hard, it is almost certain that there is peritonitis.

10. If the intestines continue to roll about visibly, it is almost certain that there is no peritonitis. This symptom occurs chiefly in emaciated subjects, with obstruction in the colon of long duration.

11. The tendency to vomit will usually be relative with three conditions and proportionate to them. These are: (1) the nearness of the impediment to the stomach, (2) the tightness of the constriction, and (3) the persistence, or otherwise, with which food and medicine have been given by the mouth.

12. In cases of obstruction in the colon or rectum, sickness

is often wholly absent.

13. Violent retching and bile vomiting are often more troublesome in cases of gall-stones or renal calculus, simulating obstruction, than in true conditions of the latter.

14. Freeal vomiting can occur only when the obstruction is moderately low down. If it happen early in the case, it is a most serious symptom, as implying tightness of constriction.

15. The introduction of the hand into the rectum, as recommended by Simon of Heidelberg, may often furnish useful information.—Canada Medical Record.

## MEMORANDA FOR TREATMENT OF CASES OF INTESTINAL OBSTRUCTION.

### BY JONATHAN HUTCHINSON, F. R. C. S.

1. In all early stages, and in all acute cases, abstain entirely

from giving either food or medicine by the mouth.

2. Use anæsthetics promptly. Put the patient under the full influence of ether; examine the abdomen and rectum carefully before tympanites has concealed the conditions; adminis-

ter large enemata in the inverted position of body; and, if advisable, practice abdominal taxis. If you do not succeed at first, do it repeatedly.

3. Copious enemata, aided, perhaps, by the long tube, are advisable in almost all cases, and in most should be frequently

repeated.

4. Fluid injections may be sometimes replaced by insufflation of air in cases of invagination, since air finds its way upwards better, and is more easily retained. It is, however, somewhat dangerous, and has, perhaps, no advantage over injections with the trunk inverted.

5. Insufflation is to be avoided in all cases of suspected stricture, since the air may be forced above the stricture, and there

retained.

6. Saline laxatives are admissible in certain cases where impaction of fæces is suspected and in case of stricture where flu-

idity of fæces is advisable.

7. Opium (or morphia) must be used in proportion to the pain which the patient suffers. It should be administered by the rectum or hypodermically, and should be combined with belladonna. If there be not much pain or shock, it is better avoided, since it increases constipation, and may mask the symptoms.

8. A full dose of opium administered hypodermically will put a patient in a favorable condition for bearing a prolonged examination under ether, and attempts at abdominal taxis.

9. In cases of uncertain diagnosis, it is better to trust to the chance of spontaneous cure or relief by repeated abdominal taxis, than to resort to exploratory operation, or, in desperate cases, iliac enterotomy should be done. Operations for the formation of an artificial anus in the right or left loin may be performed whenever the diagnosis of incurable obstructive disease in the lower bowel is made.

10. The operation for the formation of an artificial anus through the anterior part of the abdominal wall and into the small intestine should be resorted to only in certain cases of insuperable obstruction, in which the seat of disease is believed

to be above the cæcum.

11. In all cases in which the precise seat of disease is doubtful, but the large intestine is suspected, the right loin should be preferred. If the colon here be found to be empty, the peritoneum may be cautiously opened, and a coil of distended

small intestine brought into the wound.

12. My last suggestion as to the treatment is one which, speaking as I do in a medical section, I feel some delicacy in making. It is, however, I believe, a very important one, and it is this, that cases of mechanical obstruction are really surgical and not medical cases. They require manipulative measures both for diagnosis and for treatment, and they require them early. It is difficult to explain why it has come about that, as a rule, a physician is called in first, and nothing but drug treat-

ment usually adopted in the early periods; and it is, I am convinced, much to be regretted. The surgeon is but too often asked to see the case only in the last stage, when it is thought that perhaps an operation may be desirable. At this period the abdomen is distended, and an accurate diagnosis impracticable; but, what is worse, the stage at which abdominal taxis is most hopeful has passed. My remarks do not, of course, apply when the medical attendant possesses the knowledge and exercises the functions of both branches.—British Med. Jour.—Canada Med. Record.

# DYSMENORRHŒA: ITS TREATMEN ('. BY H. E. WOODBURY, M. D., WASHINGTON, D. C.

The practitioner often meets with cases of this disease of a distressing and troublesome type. Numerous remedies and modes of treatment have been proposed, but these often prove inefficient. As this painful and injurious condition may result from different causes, no single plan of treatment will be applicable to every case.

A successful treatment of several obstinate cases, prompts us to give the profession the benefit of our plan, which we hope may be deemed worthy of a trial. Believing that constriction or occlusion of the cervix—the result of sub-acute inflammation or displacement—was frequently the cause of the trouble, we have pursued the following method in all cases in which it

was not contra-indicated.

About one week before the time for the menstrual flow to commence, we introduce into the cervix a very small tent made from the bark of the elm (ulmus Americanus). We prefer this material because it is safe and cleanly, and never causes inflammation, as the sponge sometimes does. In most of these cases, we have found it very difficult to pass a small tent, moistened, more than half an inch into the cervix, on a first trial, and those used at first are only about one inch in length. After the tent is introduced, a plug of cotton, to which a cord is attached. is passed through the speculum to keep the tent in situ, The plug is saturated with carbolic acid and offive oil, or glycerine, parts 1 to 7. By means of the cords attached to the tent and plug, the patient removes them the next morning, and uses an enema of warm water and castile soap. In an obstinate case, we use a tent every day up to the day on which the flow should commence, unless it is established sooner, substituting longer and larger ones as the cervical cavity becomes dilated. So much for the mechanical part of our treatment.

According to the indications of the case, we use one of the

following remedies internally:

Concentrated tineture of helonias (false unicorn), Keith & Co.'s.

Fluid extract of ergot (Squibb's). Tincture of gelseminum.

Syrup of the iodide of iron.

The patient commences taking one of the above at least three weeks before the regular date of her flow, and continues it until this is fully established. She then suspends it for a week or ten days, after which she resumes it. Sometimes we get better results from using two of the above-named remedies alternately, as the helonias and the iron, or the ergot and the iron. A gentle current of electricity is passed through the uterus once a day for two or three days before the period. The result of this plan of treatment may be stated briefly, as follows:

During the first period after this treatment, the patient suffers less pain, and the flow is somewhat increased in quantity. If it be persevered in, there will be improvement every month, and after three or four months, the cure will most likely be complete.

In all cases of dysmenorrhoa resulting from the causes we have herein set forth, we have found this plan a practical and successful one. The tent used is bland and unirritating, owing to the amount of mucilage it contains, and, by means of the plug, a gentle pressure is kept up against it. As soon as the tent, on removal, is found to be freely stained with blood, we cease to use it until a week before the next period.

This treatment, it will be perceived, is especially adapted to that class of cases in which some eminent practitioners have recommended and practiced incision of the cervix. We vastly prefer the method here described to incision.—Virginia Medical Monthly.—Ohio Medical and Surgical Journal.

## "EXPERIMENTS ON THE BILIARY SECRETION, WITH REFERENCE TO THE ACTION OF CHOLAGOGUES."

. Seventeen substances have been investigated since the last experiments were published. All the experiments were made upon the dog whilst under the influence of curare, artificial respiration being kept up. Observations were made at periods of fifteen minutes, each experiment lasting eight or ten hours. All the substances were injected into the duodenum as near to the orifice of the bile duct as possible, and the following is a summary of the results obtained: Dilute nitric acid stimulates the action of the liver. Physostigma is a powerful stimulant of the secretory action, and its effect is strongly autagonized by atropia, which has a negative influence on the secretion when injected alone. Menispermine, an impure resin derived from the yellow merilla of America, and administered in seven-grain doses in some forms of dyspepsia, did not affect the liver, but acted as a stimulant of the intestinal glands. Babtisin, derived from the baptisma tinctoria, and used in America in the treatment of scarlet fever, typhoid fever, and gangrene, stimulates both liver and intestine. Phytolaccin, like the two foregoing, an American eclectic medicine, is derived from the Phytolacca decandra, and is given in quarter to one-grain doses in chronic rheumatism, and in larger doses as a purgative. It acts upon the liver, its action continuing for two hours: it is antagonized by atropia. Benzoic acid has but little action, sodic benzoate a decided effect, and ammonia benzoate a powerful action on the liver, but not on the intestinal glands. Ammonium phosphate excites the liver briskly. and its effect persists for about three hours. Sodium salicylate powerfully stimulates the liver, but has no action on the intestinal glands. Morphia does not prevent its action, if injected during or before the experiment. Tannic acid has no effect. Hyoscyamus causes a slight fall in the amount of the flow of bile. Acetate of lead diminishes, and potassium iodide neither increases nor depresses the action of the liver. Veratrium acts as a stimulant of the intestinal glands but not of the liver. The action of the cholagogues is not by increasing the secretions of the whole alimentary tract, for some, as gamboge, which stimulate the whole mucous tract, do not excite the liver. Nor is it by increasing the blood flow, for substances stimulating the intestines, and thus causing portal congestion. do not increase the flow of bile. But they act either by stimulating the hepatic cells or the nerves which preside over them. If a purgative agent only stimulates the intestinal canal, it diminishes the secretion of bile by draining the portal vein. and by carrying off the bile-forming substances in the intestine, thus depriving the liver of its supplies in a double manner.—London Lancet.—Canadian Journal of Medical Science.

## THE AMBULATORY TREATMENT OF PSORIASIS VULGARIS.

The author says that, as is known, the treatment of psoriasis is a difficult and thankless task. By the greatest patience and perseverance only temporary abatement is attained, and not rarely a new and more intractable eruption follows; of the agents hitherto employed, some are not without danger from long use, as arsenic; some are too troublesome, as baths, inunctions, etc.; some too painful, as friction with brushes, Vleminck's solution, etc.; and finally, the greater part are without effect. It is, therefore, no wonder that even the most eminent authorities include this among the incurable skin diseases,

The above facts, the author thinks, justify him in publishing a method of treatment without danger, cleanly and cheap. With the prospect of a cure, intelligent patients can not only be treated without confinement, but pursue the treatment with-

out the oversight of the physician.

Crystalized carbolic acid, dr. ij, is dissolved in ozj of collodion, and brushed over the affected portions of skin. When the eruption is limited it may all be brushed over at once, but where it is extensively diffused, a gradual application is preferable, say one day an arm, and after two or three days the other arm, or foot, etc. This precaution should be observed to prevent carbolic acid poisoning, since it readily passes from the

skin into the blood. The application is not repeated as long as the collodion remains fixed to the skin. It is superfluous to put on fats. The physician should apply the solution, for often

a patient makes a misuse of medicaments.

In a few minutes after the painting pain arises, but it is endurable, and does not continue more than ten or fifteen minutes. In a few days the patient and physician will be surprised to find that the eruption has lost its original character. Instead of the nasty, red, fissured, bleeding appearance, there are seen smooth, shining, flat collodion flecks, which are not disturbed by washing, baths or friction of the clothes.

G. has also found that psoriasis spots not brushed, sometimes disappear, as it seems, from absorption of the carbolic acid. His observation has noted no outbreak of the eruption in new

places, as occurs with other methods of cure.

The application must continue as long as the seat of the eruption is red and infiltrated. The treatment, on the whole, may require two, three or more months, but when the convenience and ease are considered, this will not appear long.

Concerning relapses, they need excite no apprehension, since they again give way under the same treatment.—Lancet and Clinic.—Southern Medical Record, October, 1878.

CONCERNING THE INFLUENCE OF PERSPIRATION ON THE FEB-RILE TEMPERATURE.

SYDNEY RINGER, M. D., PROFESSOR OF MEDICINE AT UNIVERSITY COLLEGE,
IN LONDON LANCET.

I am induced to publish these experiments, as they throw some light on the cause of the morbid elevation of the temperature in fever. This preternatural heat of the body has been accounted for in different ways. Some ascribe it to the dry skin in fever, whereby less heat is lost by evaporation; while the production of heat is maintained, the excess accumulates in the body and raises its temperature to tever height. If the production of heat remains the same while less is lost by evaporation, heat of course must to some extent accumulate in the body, and so raise its temperature; but this accumulation of heat, as I shall shortly show, plays a very insignificant part in the generation of fever.

According to another, and, as I believe, the correct view, by far the greater part of the preternatural heat of fever is due to increased formation of heat by increased combustion of the tissues, especially the nitrogenous tissues. During fever the quantity of urea is largely increased, and this is generally considered to depend upon general combustion of the nitrogenous tissues. Some have demurred to this conclusion, maintaining that the increase of urea is due to the retrograde metamorphosis of morbid products formed by the disease, as the exudation

into the lungs of pneumonia. This explanation, however, fails altogether to explain the increase of urea in an attack of ague, where no morbid products are formed. Some years ago I showed that during a paroxysm of ague the urea is increased in proportion to the height and duration of the fever, so that given the height of the fever we can approximately calculate the increase in the urea; and, vice versa, given the increase of urea, we can ascertain the height of the fever. The increase of the urea begins directly the fever begins, and declines with its decline. This increase in the urea must be ascribed to increased combustion of nitrogenous tissue; and as the increase of urea is in proportion to the severity of the fever, it is fair to conclude that this increased combustion causes the fever.

A case of rheumatic fever with high temperature, but with freely perspiring skin, conclusively proves that fever is not simply due to accumulation of heat through loss of evaporation from a dry skin. In other febrile diseases, too, as in typhoid fever, especially where there is considerable exhaustion, the skin may be occasionally moist, and even soaked, while the temperature is very high.

I will now adduce additional evidence to show how little share the dry skin plays in the production of the febrile temperature. Two patients were admitted under my care with ague. I determined to excite profuse perspiration before, or just before, the commencement of the febrile paroxysm, and to watch what effect this free perspiration might have on the high

temperature.

The first patient suffered from quotidian ague, and his temperature rose in an untreated paroxysm to 105° and 106° F. Just before the onset of an attack, I gave him half a grain of pilocarpine, which in twenty minutes produced copious perspiration; yet, in spite of this, the temperature rose six degrees, to 104.4°, and the fit lasted as long as on previous days, the temperature falling short of the attacks on the previous days by about a degree. As in ague, the untreated fits often differ to a greater degree than this, it is doubtful if even this slight diminution was due to the jaborandi. I may mention that the sweating produced by the jaborandi had very little influence on the shivering, and blueness of the lips, nose, and extremities.

The next patient suffered from irregular tertian fever caught in Florida. In an untreated attack, on August 1st, his temperature rose to 104.8°. August 4th the rigor began at 3:20, his temperature at that time standing at 101° F., conforming to the rule with ague, that the temperature rises one or two degrees before the rigor begins. Five minutes after the beginning of the rigor, Mr. Neale, my resident assistant, administered hypodermically a quarter of a grain of pilocarpine. In fifteen minutes perspiration began, the temperature standing at this time at 102.6° The perspiration soon became profuse, and yet at 4:30, fifty minutes after the commencement of free

perspiration, the temperature stood at 105:50, and continued above 105° till 5:30. P. M., when the fever began to decline, and the temperature became normal between 1 and 3, A. M. on the following morning, the fit lasting more than ten hours. On August 7th he had a fit which was untreated. On August 10th he had another attack. At 3:20 his temperature was 101.8°. At 3:30 Mr. Neale gave him a hypodermic injection containing half a grain of pilocarpine. At 3:45 he was perspiring very freely, and his temperature marked 102.1°. At 5:30 the temperature was 105°, and subsequently rose to 105.2°. It remained at or above 105° till 8, P. M., and then fell, becoming normal at 4 the following morning: the fit, therefore, lasted over twelve hours. On August 13th he had another attack. At 5. P. M. his temperature was 101°. At 5:30 half a grain of pilocarpine was administered hypodermically. At 5:45 he was sweating, and his temperature then marked 103°. At 7:15 his temperature stood at 105.4°, and so remained till 8, P. M., and after this time it fell, becoming normal between 3 and 5 the following morning. In this case the attack lasted more than ten hours.

In these experiments, then, the temperature in an untreated attack rose to 104.8°. In the three fits treated with pilocarpine, which produced copious perspiration, the temperature reached respectively 105.6°, 105.2°, and 105.4°, the fits lasting respectively, ten, twelve, and ten hours. We may therefore fairly conclude that the free perspiration had a very insignificant influence on the febrile temperature, and the increased heat cannot be explained by its accumulation owing to a dry skin, but must be due to increased production of heat from increased combustion.

In his interesting and suggestive lectures on Cardiac Depressants, Dr. Fothergill explains the effect of aconite and tartar emetic on the febrile temperature by their changing the dry to a moist perspiring skin, and so increasing the loss of body heat by increasing radiation and evaporation. As I have already said, by making a dry skin moist, we must of course abstract a certain amount of heat by evaporation, and to this extent cool the patient; but the experiments given in this paper show, I think, how insignificant a part the loss of heat, induced in this way, plays in causing that great fall of temperature so often produced by aconite or tartar emetic. Other reasons may be adduced in support of the same conclusion.

1. Whenever aconite promotes perspiration, a proportionate reduction of temperature ought to take place in all diseases; but while, in many cases, as in tonsillitis, etc., the fall of temperature is considerable, in other forms of fever, though the perspiration may be very free, yet scarcely any, or even no fall of the temperature takes place: for instance, in many cases of erysipelas, pneumonia, pleurisy, and especially in the specific

fevers, the fever continues unchecked.

2. We not uncommonly find that aconite quickly reduces temperature without promoting sweating, especially with children, in whom this drug, in many instances, fails to produce it.

3. Sometimes we see cases like the following: in typhoid or scarlet fever a patient with a hot dry skin, to whom we give aconite, becomes in a few hours freely bathed with perspiration, which continues several days, and then, in spite of the drug, the skin again becomes quite dry. Now in a case like this we find that the temperature undergoes no change. It remains as high during the sweating as before giving aconite,

and does not rise on the cessation of the perspiration.

4. Some years ago, in connection with Mr. P. Gould, in order to test the influence of perspiration on the temperature, we three times performed the following experiment: We placed a fever patient in a hot-air bath, with the exception of the head and face. When free perspiration came on the bath was removed and the patient covered lightly with clothes, and in this state he sweated for several hours afterward. While in the hot-air bath his temperature did not rise, nor did it fall after the bath, notwithstanding the free perspiration and light clothing. If it be objected that the clothing prevented evaporation, and the consequent reduction of temperature, I may reply that these are the identical conditions under which aconite in so many instances causes so marked a fall of temperature.—Louisville Medical News.

#### REUNITING A SEVERED SCIATIC NERVE.

In his address before the Surgical Section of the British Medical Association, Mr. Wheelhouse, of Leeds, related the case of a man who had fallen upon a scythe, and completely divided the sciatic nerve, the injury leading to paralysis of the limb, which resisted all treatment. An attempt was made to reunite the ends by exposing them by careful dissection, and paring them obliquely, until apparently fresh nerve tissue was exposed. They were then brought together, and stitched with fine carbolized catgut thread. The leg had to be firmly flexed upon the thigh, in order to make up the shrinkage in the nerve length, and the ankle was firmly lashed to the buttock to retain it in this position.

Gradually sensation returned. At the end of five weeks he relaxed the position of the leg, letting it down inch by inch, till it was straight again. Slowly the power of voluntary motion also returned, and three months after his admission to hospital, he was discharged able to walk with the aid of two canes. Improvement continued, and eventually he was able to work and move about as he was wont to do.—Chicago Medical Jour-

nal and Examiner.

# RECENT PROGRESS IN SURGERY.\* BY J COLLINS WARREN, M.D.

Supra-Condyloid Amputation of the Thigh by the Method of Gritti.—Dr. W. H. A. Jacobson describes in Guy's Hospital Reports for 1878 two operations performed in this way. Gritti's method is for the knee-joint what Pirogoff's is for the ankle. The femur is sawn through the condyles, and the articular surface of the patella having been removed by the saw, the two divided bone surfaces are brought into apposition. There is some difficulty in bringing the bones together, and accordingly Dr. Stokes, of Dublin, invented the supra-condyloid method, which merely amounts to cutting the bone a little higher up, so that the patella falls down more easily over the end of it. If it does not lie closely to the bone, it may be held in place by a catgut suture passed through the periosteum of the posterior cut edge of the femur to the covering at the lower edge of the patella. The incision for the flap begins an inch above and behind the internal condyle, and is carried down vertically to a point opposite the tuberosity of the tibia, then across and up to a corresponding point over the external condyle. is a short posterior flap. Among the special advantages claimed for this method is the preservation of the normal attachment of the extensor muscle. In one case, however, we find this was divided. The most important advantage is said to be the facility with which an artificial limb is fitted to the stump. This is not too long, as in Gritti's operation, and there is no difficulty in taking the bearing on the end of the stump, which in other amputations is said to become soon so tender that bearing must be taken higher up the thigh. We can see one decided disadvantage in this operation, namely, the sacrifice of the insertion of those muscles of the femur which are attached to the condyles, owing to the height at which the bone is divided.

New Method of Performing Amputations.—Professor Verneuil has experimented largely of late years in attempts to overcome some of the difficulties which surround these operations and entail the presence of more assistants than frequently it is possible to obtain. The method he has adopted appears to be based upon the plan usually employed in the removal of large growths, namely, to dissect cautiously with the knife, tying all vessels of considerable size before or as soon as they are divided. The advantages of this plan are illustrated in a case of disarticulation at the hip-joint,† which was performed in the following manner: Esmarch's bandage having been applied, and the limb emptied of blood as thoroughly as possible, an incision was made beginning at Poupart's ligament,

<sup>\*</sup> Concluded from page 531.

<sup>†</sup> Gazette des Hôpitaux. No. 139, 1877. Centralblatt für Chirurgie, No. 22, 1878.

and, following the line of the vessels for a distance of six centimetres from this point, it was continued at right angles outward and downward, running through the gluteal fold behind, and coming up on the inside two fingers' breadth from the genito-crural fold to the starting-point of the circular cut. All cut vessels were then tied. The next step was the opening of the sheath of the vessels and exposing the femoral at the point where the profunda was given off. The vessel was tied above the division, and two ligatures were also placed below this point. The femoral vein was carefully divided in the same The muscles in front and on both sides were then divided one by one, all vessels being tied as fast as cut, the posterior muscles being divided last of all. The disarticulation is effected by an incision through the capsule in front. The patient was fifty-one years of age, and the disease was apparently a myxosarcoma of the thigh. The loss of blood appears to have been considerable—six hundred grammes. The patient recovered. This method appears unsurgical, but might be useful in cases where the surgeon was "short-handed."

Gastrostomy in Stricture of the Œsophagus.—A very successful and satisfactory instance of this operation, performed by Dr. Trendelenburg, of Rostock, Germany, is reported by Dr. Thomson.† The patient was a boy nine years of age, who produced stricture by swallowing a draught of sulphuric acid. Neglect of treatment soon rendered the stricture impassable, and all attempts to dilate it having failed the operation was

performed. It is thus described:

"The skin was cut through for a length of four to five centimetres (about two inches) in a diagonal direction, running from right to left, parallel with the under side of the cartilaginous portion of the eighth left rib, and at a distance of a finger's breadth from it. The wall of the abdomen was divided in the same direction as far as the peritonæum, and the left rectus at the same time cut partly through. All the vessels were then carefully bound up, and after the bleeding had entirely stopped the peritonæum was divided in the same direction. The edge of the left lobe of the liver was then exposed to view, rising and falling with the respiration, and also a piece of intestine, which might have belonged either to the colon or to the stomach. As it could not be decided, by feeling about with the introduced finger, to which of these it was attached, I next pulled the diaphragm to the front, and could then easily find the junction of the same at the colon and at the stomach. The peculiar construction of the arteria and vena gastro-epiploica made the junction of the diaphragm at the stomach so characteristic that all doubt disappeared as soon as these vessels were exposed to view. The stomach had shrunk together and attached itself to the vertebral column. Its front side was

<sup>†</sup> The Lancet, August 31, 1878.

now grasped at a point corresponding the best with the incision, drawn somewhat forward out of the opening, and fixed temporarily in the opening by two acupuncture needles stuck through it transversely. The two needles rested crosswise on the outer surface of the abdomen. In order that the peritonæum should with certainty be included in the sewing up, the edge of it, where cut, was grasped with pincettes, and was drawn forward and secured by laying the pincettes over on one side. For the stitching moderately strong silk was used, and the stitches were so arranged that the outer skin, the wall of the abdomen, and the peritoneum were pierced, and the wall of the stomach taken up as much as possible in its entire thickness. Altogether fourteen stitches were made. After the sewing, which surrounded a piece of the stomach wall in the form of a circle about one and a half centimetres (five-eighths of an inch) in diameter, was completed, the stomach wall was cut through within this circle crosswise, and a drain-pipe inserted in the stomach."

One of the difficulties of these cases appears to be the tendency of the stomach to tear away from the abdominal wall. and in this respect differs from cases of enterotomy, where the intestine presses against the wall and shuts off automatically the abdominal cavity. This difficulty is increased when vomiting occurs. Soon after the operation in this case a feverish eatarrh of the stomach and intestine appeared, and continued in various degrees for several months. The food, consisting of meat scrapings, soft-boiled eggs, milk, Nestler's children's food, etc., was introduced by means of a syringe into the stomach at intervals of three hours; the meat was first chewed and spit out again. When, however, this method of introducing the food was replaced by a cleaner and more natural one, the stomach catarrh disappeared. A longer tube was attached to the drain-pipe, and through this the boy now lets the masticated food slide down direct into the stomach, which he assists by blowing slightly with the mouth. The boy soon learned to be quite at ease with his artificial esophagus. In feeding the esophagus is removed to the outside; otherwise the process is as much as possible like the natural one. The boy takes his food as before. The masticated and salivated matter remains partly in his mouth and is partly swallowed down into the esophagus, after which he places the tube in his mouth, and sends the food by a slight choking and spitting motion, into the tube, and lets it glide down into the stomach, assisting it by blowing slightly with the mouth. Then he shuts the pinchcock, which he had previously opened, and recommences the process afresh. In this manner the boy is made independent of the highly unappetising and comfortless procedure of the stomach syringe, and his feeding loses the disagreeable aspect of a physiological experiment.—Boston Medical and Surgical .Tournal.

#### MALTINE.

At a late meeting of the British Medical Association, at Bath, in August last, among the exhibits of pharmaceutical and medical preparations, much interest was shown in one called *Maltine*, which may be described as a highly concentrated

extract of malted barley, wheat and oats.

Extracts of malt (i. e., malted barley) are pretty widely known, but this is the first example of a combination of the nutritious principles of these three cereals that we have seen; and the greater value of this combination is apparent, as wheat and oats are especially rich in muscular and fat producing elements. This preparation is entirely free from the products of fermentation, such as alcohol and carbonic acid, and is very agreeable to the taste. Clinical experience enables us to recommend it as a nutritive and digestive agent, in virtue of its albuminoid contents, and its richness in phosphates and in diastase, likely to prove an important remedy in pulmonary affections, debility, many forms of indigestion, imperfect nutrition, and deficient lactation. It will, in many places, take the place of cod-liver oil and pancreatic emulsions, where these are not accepted by the stomach.

The manufacturers, Messrs. Reed & Carnrick, issue a pamphlet describing fully the process of manufacture, which no doubt they will supply to any medical man; and we are disposed to believe that maltine, which is less known here than abroad, is well worthy of practical attention.—British Medical

Journal, Oct. 19, 1878.

On Saturday, the 9th of November, a committee appointed by the "Maryland Academy of Sciences," and approved by the "Academy of Medicine" and "Baltimore Medical Association," consisting of Drs. J. R. Uhler, C. C. Bombaugh, and C. L. Ondesluys, waited on President Hayes with the following memorial:

### To the President:

The undersigned, a committee appointed by the "Maryland Academy of Sciences," most respectfully request you to transmit to Congress a message asking an appropriation and authority to appoint a permanent scientific and medical commission, to study and report upon the nature, causes, treatment and prevention of yellow fever, and allied epidemic diseases; said commission to consist of twenty or more members, chosen from the ablest chemists, physicists, physiologists, microscopists, biologists, naturalists and physicians in the country, with power to select from their own number and others workers, in order that the disease may be systematically examined from

different points of view, both by acclimated members on the spot and others in the various laboratories of our country.

J. R. UHLER, M. D., CHARLES L. OUDESLUYS, REV. JOHN M. HOLMES, GEORGE W. DAVIDSON, P. G. SAUERWEIN, C. C. BOMBAUGH, M. D.

During the conversation that ensued, the following important points were made: 1st. That the active intervention of men of trained judgment and special qualifications is essential for success. 2d. That the investigation should be commenced at once, before another epidemic occurs, in order that the usual healthy conditions of the air, water, food, vegetable and animal life in the infected districts may be accurately ascertained. 3d. That the investigations should be made by a large number of specialists, in order that many new methods may be tried. 4th. That a portion of this work can only be conducted in the various large laboratories of the country, hence a number of names of men possessing a national reputation, and connected with Harvard, Yale, the Universities of Michigan, New York, Pennsylvania, Maryland, Louisiana, Bellevue Medical College, Cincinnati Medical School, and the Surgeon General's Office, were suggested for appointment. 5th. The importance of systematic efforts was discussed, and the committee left with the assurance that the memorial would be acted upon, and with the request of the President that it should be widely made known, in order that medical and scientific men may induce Congress to pass the bill.

OEFICE SURGEON GENERAL, U. S. M. H. S., Washington.

Abstract of Sanitary Reports received under the National Quarantine Act:

## No. 17, November 2d, 1878.

New Orleans, La.—There were 83 new cases of yellow fever and 109 deaths for the week ending yesterday. During the week the Board of Health received information of 288 old cases not previously reported. For the past twenty-four hours there were four new cases and 8 deaths. Total cases, 13,252; total deaths, 3,973.

Morgan City, La.—During the past week there were 8 deaths from yellow fever. Total cases to date 563; deaths 102.

Buton Rouge, La.—For the week ending yesterday evening there were 75 cases of yellow fever and 16 deaths. Total cases 2,415; deaths 160.

Mobile, Ala.—During the week ended yesterday evening there were 60 new cases of yellow fever and 10 deaths. Total cases 224; deaths 59.

Decatur, Ala.—There were 10 cases of yellow fever and 2 deaths for the week ended November 1st. Total cases 188;

deaths 42.

Bay St. Louis, Miss.—Total cases of yellow fever to yester-day evening 535; deaths 78. Only an occasional case occurring now, and the local health authority considers the epidemic at an end.

Port Gibson, Miss.—There were about 10 deaths in the country near Port Gibson during the past week, none in Port

Gibson, where the epidemic is considered at an end.

Pass Christian, Miss.—During the week ended yesterday evening there were 19 cases of yellow fever and no deaths. Two deaths from yellow fever occurred in the week ended October 25th, which were not reported in that week. Total cases to date 189; deaths 20.

Grand Junction, Tenn.-To October 26th there were 174 cases

of yellow fever and 74 deaths.

Milan, Tenn.—For the two weeks ended yesterday evening there were 12 cases of yellow fever and 6 deaths. Total cases 15; deaths 9.

Memphis, Tenn.—During the week ended October 31st there were 22 deaths from yellow fever. Total deaths 2,964. The Board of Health announced officially, October 28th, that absentees could return with safety.

Mason, Tenn.—The first case of yellow fever—a refugee—occurred August 29th; the first case among inhabitants, October 4th; since which time to yesterday evening there have been 60

cases and 24 deaths.

Chattanooga, Tenn.—During the week ended yesterday evening there 28 new cases of yellow fever and 12 deaths. Total cases 433; deaths 127.

Meridian, Miss.—Over 400 cases of yellow fever are reported

to have occurred to date. Total deaths 80.

Galipolis, Ohio.—During the week ended October 30th, one new case of yellow fever occurred and 2 deaths.

No cases of yellow fever or deaths in Louisville and Rey West

during the past week.

Havana, Cuba.-23 deaths from yellow fever and 9 from

small-pox for the week ended October 26th.

Rio de Janeiro.—One death from yellow fever and 11 deaths from "pernicious fever" for the week ended September 28th. In the same week there were 1,495 deaths from all causes, of which 139 were from small-pox. Since May 1st, 1878, there have been 1,233 deaths from small-pox.

Europe.—In 149 cities and towns of the German Empire, having an aggregate population of 7,429,793, there were 5,755 births and 3,512 deaths for the week ended October 5th, being

an annual mortality rate 24.6 per 1,000 of the population. The lowest death rate, 11.2, was in Kiel, the highest, 42.2, was in Augsburg. The deaths include 108 from scarlet fever, and 147 from diphtheria and croup. None from small-pox.

## No. 18. November 9th, 1878.

New Orleans, La.—There were 11 new cases of yellow fever and 143 old cases reported, for the week ended yesterday evening. For the past twenty-four hours, no new csses and 2 deaths. Quarantine raised on the 5th inst. Total cases 13,406—subject to revision. Total deaths 4,010,

Morgan City, La.—There were 8 cases of yellow fever and 3 deaths during the past week. Total cases to yesterday even-

ing 571; deaths 105.

Mobile, Ala.—During the week ended yesterday evening there were 35 cases of yellow fever and 9 deaths. Total cases 259; deaths 68.

Pass Christian, Miss.—Seven new cases of yellow fever and one death for the past week. Total cases 196; total deaths, 21.

Ocean Springs, Miss.—For the week ended yesterday noon there were 4 cases of yellow fever and no deaths. Total cases 150; deaths 30.

Hernando, Miss.—10 cases of yellow fever and 5 deaths for the week ended November 2d. No cases and one death during

the past week. Total cases 175; deaths 69.

Dry Grove and Lebanon Church neighborhood, Miss.—Since October 19th, there have been 13 new cases of yellow fever and 8 deaths. No new cases and but one death for the week ended November 6th. Total cases 125; deaths 52. Crystal Springs, Miss., near Dry Gove, has, so far, escaped the fever.

Memphis, Tenn.—During the past week there were 33 deaths from yellow fever. Total deaths to the evening of the 7th,

2,997.

Chattanooga, Tenn.—Nine new cases of yellow fever and four deaths during the past week. Total cases to yesterday even-

ing 444; deaths 133.

Cairo, Ills.—During the two weeks ended yesterday there were 8 new cases of yellow fever and 3 deaths. The last case occurred on the 4th, and the last death on the 6th inst. Total cases 83, not including some doubtful cases. Total deaths 44. Heavy frost the 8th inst.

Vicksburg, Miss.—There were 11 deaths from yellow fever during the past week. No deaths during the past twenty-four hours. Six deaths during the week in the country near Vicks-

burg.

Delta, La. Four deaths from yellow fever during the past

week

Decatur, Ala.—During the week ended last evening there were 8 cases of yellow fever and one death. Total cases 196; deaths 43.

Gallipolis, Ohio.—No new cases of yellow fever since October 26th. The last death occurred October 27th. Total cases 65; deaths 37—not including 6 deaths which occurred on the steamboat John Porter.

Key West. Fa.—No yellow fever since October 13th, The U.

S. troops returned to Key West on the 7th inst.

Havana, Cuba.—24 deaths from yellow fever and 4 from small-pox for the week ended November 2d.

Lambayeque, Peru.—For the week ended October 12th, spo-

radic cases of yellow fever are reported.

Martinique.—There were no deaths from preventable diseases in the Island of Martinique during the week ended October 9th.

Bermuda.—During the two weeks ended October 29th, there were six deaths from all causes out of a population of 15,293, including 3,218 military and naval forces. The bark Blackpool, which left Bermuda quarantine for England, October 22d,

had three or four cases of yellow fever on board,

Japan and China.—Dr. Simmons, Sanitary Inspector for the Japanese Government for the port of Yokohama, reports, under date of October 10th, that he regards the occasional reported cases of cholera in Japan during the past summer as cholera morbus, and not malignant, or Asiatic cholera. On the 2d of October, however, malignant cholera broke out in Nagasaki, and in eight days there had been 58 cases and 10 deaths. Cholera has existed in Shanghai, China, for several months, and as Nagasaki is the first port of Japan entered by vessels from Shanghai, Dr. Simmons regards the outbreak as a new importation, but owing to the lateness of the season, and the sanitary measures instituted by the Government, he does not anticipate a spread of the disease.

Europe.—In 149 cities and towns of the German Empire, having an aggregate population of 7,369,009, there were, during the week ended October 12th, 5,470 births, and 3,539 deaths from all causes, being an annual death rate of 25 in 1,000 of the population. Wiesbaden shows the lowest death rate—11-2, and Chemitz the highest—33-8. The total deaths include 80 from enteric fever, 127 from scarlet fever, and 154 from diphtheria. No deaths occurred from cholera, yellow

fever, small-pox, or typhus fever.

Vienna, Austria.—During the two weeks ended October 19th, 700 deaths are reported out of a population of 727,271, being an annual death rate of 25.53 per 1,000 of the population. The total deaths include 15 from small-pox, 5 from enteric fever, 11 from searlet fever, and 46 from diphtheria.

Hamburg.—During the week ended October 12th, there were 53 deaths from typhus fever, 10 from scarlet fever, and 39 from

diphtheria and croup.

Great Britain.—In 23 large cities and towns of the United Kingdom, having an aggregate population of 8,373,953, there were 6,095 births during the week ended October 19th, and 3,371 deaths from all causes. In 21 of these cities there were 14 deaths from small-pox, 184 from scarlet fever, 22 from diphtheria, and 90 from fevers, principally enteric.

## No. 19, November 16th, 1878.

New Orleans, La.—Por the week ended yesterday evening there were 11 deaths from yellow fever. Impossible to procure accurate number of new cases. No new cases or deaths for the past 24 hours.

Clinton, La.—The first case of yellow fever occurred September 7th. Among the while population there have been 40 cases and 15 deaths; among the colored people 56 cases and no

deaths.

Morgan City, La.—12 new cases of yellow fever and 1 death

during the last week.

Delhi, La.—The first case of yellow fever occurred in August. Total cases to date 100, deaths 50. Both physicians died early.

Mobile, Ala.—There were 21 new cases of yellow fever during

the past week and 8 deaths.

Vicksburg, Miss.—There were 4 new cases of yellow fever and 3 deaths during the past week. For the same period there were 8 cases and 2 deaths in the surrounding country.

Pass Christian, Miss.—Three new cases of yellow fever during this last week; no deaths. The last case occurred on the 10th,

and the last death the 3d instant.

Chattanooga, Tenn.—2 new cases of yellow fever and 2 deaths during the past week. Last case and last death occurred on the 10th instant, both colored.

Osyka, Miss.—The first case of yellow fever occurred July

31st. Total number of cases to date 227, total deaths 30.

Moscow, Miss.—Population 185. First case of yellow fever August 31st, last case November 3d. Total cases 71, deaths 35. McComb, Miss.—First case of yellow fever September 28th.

Total deaths to date 21.

Lake, Miss.—To November 1st there had been 300 cases of yellow fever and 86 deaths.

Canton, Miss.—Total cases of yellow fever to November 1st, 919, deaths 176.

Port Gibson, Miss.—To November 5th there were 655 cases of yellow fever and 116 deaths.

Havana, Cuba.—16 deaths from yellow fever and none from

small-pox for the week ended November 9th.

Baltimore, Md.—For the week ended November 9th, the average annual rate of mortality in 1000 of the population, based on the weekly mortality, was 14.3. The deaths include 6 from diphtheria, 5 from enteric and 3 from scarlet fever.

Boston, Mass.—The average annual rate of mortality for the week ended November 9th was 17.5 per 1000. There were 16

cases of scarlet fever and 3 deaths; 16 cases of diphtheria and 8 deaths.

Brooklyn, N. Y.—For the two weeks ended November 9th, there were 5 cases of enteric fever and 2 deaths, 41 cases of scarlet fever and 2 deaths, 81 cases of diphtheria and 36 deaths.

Burlington, Vt.—For the month ended October 25th, the average annual rate of mortality was 7.5. There were no deaths from preventable diseases.

Charleston, S. C .- For the week ended November 9th, there were 25 deaths from all causes, including 2 from enteric fever and 1 from diphtheria.

Chicago, Ill.—Average annual death rate 14.7 for the week ended November 2d. There were 13 deaths from diphtheria, 4 from scarlet fever and 7 from enteric fever.

Cleveland, Ohio.-In the week ended November 9th, there were 45 cases of diphtheria and 20 deaths, 2 deaths from enteric fever, and 4 cases of scarlet fever; no deaths.

Lansing, Mich.—The deaths for October show an annual death rate of 7. in 1000 of population. No deaths from preventable diseases.

New Haven, Conn.-For the week ended October 9th, there were 22 deaths from all causes, including 2 from diphtheria.

New York City.—The average annual mortality rate for the week ended October 26th, was 21.4 per 1000. The deaths include 11 from scarlet fever, 18 from diphtheria.

Philadelphia, Pa.—For week ended November 9th, the rate of mortality was 16.3. The deaths include 10 from diphtheria, 7 from scarlet and 9 from enteric fevers.

Richmond, Va.—The average annual rate of mortality was 15.79 for week ended November 9th. The deaths include 2 from scarlet fever and 1 from diphtheria.

Rochester, N. Y.—For the month of October the average annual rate of mortality was 12.16 per 1000. There were 2 deaths from diphtheria and 1 from scarlet fever.

Toledo, Ohio.-During the month of October there were 3 deaths from diphtheria and 3 from scarlet fever. The average annual death rate 13.68 for all deaths.

Milwaukee, Wis .-- For the three weeks ended November 9th, there were 61 cases of diphtheria and 14 deaths, 14 cases of scarlet fever and no deaths; there were 3 deaths from typhus fever and 3 from enteric fever.

Rio de Janeiro, South America. - For the two weeks ended October 12th, there were 227 deaths from small pox, 3 from typhus fever, 10 from enteric fever, 4 from yellow fever and 18 reported from "pernicious fever." Deaths from all causes show an average death rate of 43.5.

Great Britain. -- In twenty large cities and towns of England, having a population of seven millions, the deaths for the week ended October 26th, show an annual rate of mortality of 21.6 per 1000 of the population. The deaths include 5 from smallpox, 187 from scarlet fever, and 71 from other fevers. In Dublin, for the same week, the mortality rate was 23.5. There were 5 deaths from small-pox and 8 from scarlet fever. In Belfast, for the week ended October 31st, there were 9 cases of scarlet fever and 1 death, 3 cases of enteric fever but no deaths.

Stockholm, Sweden.—For the week ended October 12th, the total mortality shows an average annual rate of 17.3. Enteri-

tis and diarrhœa caused one-fifth of the deaths.

Christiania, Norway.—For the week ended October 19th, there were 3 deaths from diphtheria and 1 from scarlet fever. The average annual rate of mortality was 13.8 in 1000 of the

population.

German Empire.—During the week ended October 19th there were 5,475 births and 3,480 deaths in 149 cities and towns, of 15,000 people and upwards, having an aggregate population of 7,439,708. The average annual death rate per 1000 of the population was 24.3; the lowest being 11.5, at Potsdam, the highest 37.9, at Augsburg. In Berlin the death rate was 27. The total deaths include 113 from scarlet fever, 169 from diphtheria and croup, and 70 from enteric fever. There were no deaths from small pox or typhus fever. The "Rinderpest" is reported to be decreasing in some of the provinces of Turkey.

China.—Advices from Shanghai to October 1st, report only sporadic cases of Asiatic cholera at that port. Cholera first appeared in China in 1820, having been brought by sea from Siam, and has proved very malignant at times, although at no time ravaging an extensive region of country. Sporadic cases occur at Shanghai in the summer and autumn of almost every year. All persons visiting China and Japan are advised to be re-vaccinated before going. The universal practice of inoculation with small-pox virus which obtains in those countries, accounts for the frequent deaths among foreigners from smallpox. Inoculation does not always protect from subsequent Diphtheria is not common in Shanghai. It is restricted attack. almost wholly to higher latitudes of the empire. Yellow fever is unknown in Eastern China. Typhus fever often prevails, but generally over restricted areas. Leprosy prevails to some extent in the province of Canton which furnishes nearly all the Chinese emigrants to the United States. The disease was introduced into the Sandwich Islands from China.

Singapore.—The island and port of Singapore are reported free from all epidemic or infectious diseases—advices to Sep-

tember 27th.

Yellow Fever in the Mississippi Valley.—Advices to the close of November 22d show the following number of new cases of yellow fever and deaths for the week ended on that day: There are 20 deaths in New Orleans, 2 deaths in Vicksburg and 2 in the adjacent country, 3 at Delta, Miss., 8 cases and 4 deaths at Mobile. The last case reported in Morgan City, La., occurred

November 19th, the last death November 15th. During the two weeks ended November 22d, there were 4 new cases of yellow fever and 2 deaths at *Decatur*, Ala., 33 deaths at *Memphis*, and 2 deaths at *Cairo*, Ills. The last case at *Cairo* occurred

October 28th, and the last death November 15th.

It is advised that during the coming winter all of the rooms of every dwelling in the cities and towns which have suffered from yellow fever should be opened to the outer air for a sufficient length of time to subject them to a freezing temperature. Carpets, bedding, clothing, trunks, etc., should be exposed to the open air and to a temperature below the freezing point. Unless this is done, sporadic cases may be anticipated when the warm weather returns, from yellow fever poison, which is liable to survive the winter in dwellings which are kept continuously at an elevated temperature.

Baltimore, Md.—For the two weeks ended November 23d, the average annual rate of mortality in one thousand of the population, based on the weekly mortality, was 19.2. The deaths include 6 from enteric fever, 8 from diphtheria, and 6

from scarlet fever.

Boston, Mass.—The average annual rate of mortality for the two weeks ended November 23d, was 21.9 per 1000. There were 4 deaths from enteric fever, 39 cases of scarlet fever and

4 deaths, 47 cases of diphtheria and 16 deaths.

Brooklyn, N. Y.—During the week ended November 16th, there were 3 cases of enteric fever and 2 deaths, 38 cases of scarlet fever and 9 deaths, 56 cases of diphtheria and 19 deaths. The deaths from all causes show an average annual mortality of 20 per 1000 of the population.

Charleston, S. C.—During the week ended November 16th there were 29 deaths from all causes, including one from diph-

theria.

Chicago, Ills.—The average annual death rate was 13.4 for the week ended November 9th. There were 11 deaths from

diphtheria, 2 from scarlet and 2 from enteric fevers.

Cleveland, Ohio.—For the week ended November 23d there were 3 cases and 3 deaths from enteric fever, 4 cases and 1 death from scarlet fever, and 31 cases and 9 deaths from diphtheria. There were 44 deaths from all causes.

Cincinnati, Ohio.—During the week ended November 16th there were 101 deaths from all causes, being at the rate of 18.8 per 1000 of the population. There were 26 deaths from scarlet fever and 4 from diphtheria.

Milwaukee, Wis .- The mortality rate for the week ended

November 16th was 10.5.

Philadelphia, Pa.—For the week ended November 16th the average annual rate of mortality was 16.8 per 1000. The deaths include 7 from enteric fever, 15 from scarlet fever, and 9 from diphtheria.

Havana, Cuba.—During the week ended November 16th

there were 15 deaths from yellow fever, and 6 from small-pox. For the week ended November 23d there were 10 deaths from yellow fever and 4 from small-pox.

St. Thomas, West Indies. - For the four weeks ended October

31st there were 12 cases of yellow fever and 8 deaths.

Tripoli, Africa.—A disease designated "febricula" by the local physicians prevailed during the six weeks ended October 28th, attacking 15,000 people out of a population of 20,000. No deaths have occurred. The attack lasts from six hours to five days and leaves the patient in a very prostrate condition. The Arabs call the disease "the club," from the sufferers feeling as if they had received a severe beating.

Vienna, Austria.—For the week ended October 19th there were 325 deaths, being a mortality rate of 24 per 1000. The deaths include 9 deaths from searlet fever and 18 from diphtheria. There were 3 cases of small pox and 8 of enteric fever.

Amsterdam.—During the week ended October 26th there were one death each from enteric fever, typhus fever, scarlet fever, diphtheria. Total deaths, 121. Rate of mortality, 20.8.

Antwerp.—For the week ended November 2d there were 23 cases of enteric fever and 4 deaths. Total deaths, 68. Mor-

tality rate, 27.

England.—In twenty large cities and towns, having a population of millions, show an annual rate of mortality of 22 per 1000 of the population. The deaths include 4 from small-pox, 200 from scarlet fever and 19 from diphtheria.

Glasgow.—For the two weeks ended November 2d there were 439 deaths from all causes, showing an average mortality rate of 21 per 1000. The deaths include 115 cases of enteric fever and 11 deaths, 69 cases of scarlet fever and 11 deaths, 20 cases of typhus fever, and 6 deaths from diphtheria.

JOHN A. WOODWORTH, Surgeon General U. S. M. H. S.

## EDITORIAL.

The Yellow Fever Commission and American Public Health Association.

So much has been written, and uttered, respecting the first mentioned functionaries, and the latter convocation, that it is due to those most interested, as well as to the profession generally, to state something which is true, regarding them.

The senior Editor, and writer of this, was the chairman of the Yellow Fever Commission, and is therefore the better qualified to place upon record such facts as he considers important to be promulgated.



During the prevalence of the great epidemic of 1878, certain well disposed persons thought it proper to set on foot some investigations which might, perchance, bring a degree of protection for the future. Disinterested and honestly inclined people will scarcely impugn the motives of the originators of the scheme of investigation, however harshly they may speak of the work itself. They were probably enough optimists in sentiment, to doubt if a merciful God had ordained that such dreadful scourges must inevitably come, and, to suggest that his imperfect creatures might by some possibility have failed to discover and apply the means adequate to their prevention. However they reasoned, the result was the organization of a commission of enquiry into the cause, origin and progress of vellow fever in the United States in 1878. A benevolent and noble minded woman furnished a large portion of the money necessary to defray the expense of this work. The commission entered upon their labor with energy, and a determination to do whatever was possible, in accomplishing the duties devolved upon them, but with warrantable misgivings respecting the policy of an arrangement which required them to make even a partial report, in six weeks after their organization.

It was announced in the public prints of the country, that some kind of report was due from the Yellow Fever Commission to the Public Health Association at Richmond, What character of report was to be forthcoming, was a matter of conjecture upon the part of the public, and of great perplexity on the part of the Commission. A study of enormous magnitude, and of importance paramount to any other of the present century, is let out under a contract that a partial report shall be made in six weeks after its inception. As the writer conceives, the Commission chose the only course left open to persons who placed the least estimated value upon themselves as scientific observers: which consisted in a simple statement of such facts as they had collected up to the time of reporting. They felt themselves to be in the position of jurors, who could not honestly deliver an ultimate verdict until after all the testimony had been heard.

The American Public Health Association which met at Rich.

mond was an assemblage of men of whom this country may justifiably feel proud. No one of cis-Atlantic birth could look upon the intellectual faces there assembled, or listen to the papers which were read, without a feeling of exultation at the wonderful advancement in sanitary science, which his own country has made, and is making. The readers of this Journal must appeal to the forthcoming volume of transactions for positive proofs as to the value of the papers.

Of course, no reference is here made to the papers read by the Yellow Fever Commission. At least no reference of a complimentary character is made to them except to say, as justice and truth demand, that they were quite equal to the expectations of honest and competent critics, who examined and reported in regard to them.

There was much complaint at the meeting that the Yellow Fever Commission occupied too much of its time. Personally, the chairman of the Commission freely declares that this charge is justly laid at his door. For his excellent colleague, Dr. Cochran, he can say that all such accusations fall to the ground.

[The Yellow Fever Commission has been under the supervision of Dr. Woodworth, Surgeon General of the Marine Hospital Service. Prior to the Richmond meeting, he had devoted much time and energy to the work, affording all the advantages his position enabled him to bestow upon them. For reasons altogether unknown to the writer, and probably not worthy of record if they were known, there is a lack of cordiality on the part of some of the medical officers of the army towards the branch of service Dr. Woodworth controls. The army was well represented at Richmond, both for numbers and ability. Its representatives offered papers and oral discussions of great value to science, which commanded the earnest attention of the Association.]

But somebody said that Surgeon General Woodworth had done something, or some other indefinite thing, which interrupted the usual routine of business. I say, with all candor, that I observed nothing whatever to justify such an accusation or belief, and it is my present conviction, that these allegations were unjust. Indeed, there is but little doubt, that whether true, or not, they

were circulated and repeated for malicious and selfish purposes by a very insignificant number of the members present.

Our readers, whose homes are among those "innocents" who live west of the Blue Ridge, and south of the James, may understand from these explanations, how a little captiousness of spirit and some petty atmospheres of discontent, or even of pugilism, have been magnified by some of the political papers into great matters. It must be remembered, also, that broad intimations had been put forth that this meeting was to be an authority which should afford a basis for a future system of quarantine. This is now a sharp and exciting political question, and no doubt some persons who were present, differed with others concerning any recommendations which should be made.

I wish now, only to ask permission to publish the partial report which the Commission did make, and to say further, that the work of investigation will certainly be carried on, and an ultimate report made of which our profession and our country will not need to be ashamed. A statement to this effect is certainly warranted by recent congressional action looking to a continuance of a yellow fever investigation, although the writer is altogether uninformed respecting the "make up" of the future Commission.

#### SURGEON GENERAL WOODWORTH:

Sir:—The Chairman of the Commission, to whom the duty of investigating the origin and spread of the epidemic of yellow fever which has this year prevailed in the United States, begs permission to offer the following report of the work the Commis-

sion has performed up to the present time.

Dr. Cochran joined the Chairman of the Commission in New Orleans on the 4th day of October, and Dr. Howard arrived on the 6th of same month. Nearly two weeks elapsed before the Commission was ready to take the field, in consequence of the great amount of work which should have been completed in New Orleans as a first step in the successful prosecution of the investigation. It was a matter known to the Board of Health of New Orleans, and through their courtesy the attendant facts were placed in the possession of the Commission, that a case of yellow fever had been brought to New Orleans in the month of May. On the 23d day of May the "Emily Souder" landed in New Orleans with her purser sick at the time of her arrival.

This man, whose name was Clark, was carried to Claiborne street, near the corner of Bienville, at a point conspicuously designated on the map of New Orleans. At this house he died on the 25th of May. The death was returned by the attendant physician as one from malarial fever. For testimony establishing the fact that this was a case of yellow fever, I refer the Association to Dr. Cochran's notes.

Another of the crew of the Souder, by the name of Elliott, took sick May 24th, at the corner of Girod street and Front, from which place he was taken to Hotel Dieu, May 27th, and

died on the 30th.

The Commission deemed it important as a first step in their work, to ascertain whether such connection existed between these imported cases and those occurring subsequently in New Orleans, as to authorize them to declare that they afforded the foci of infection from which the disease afterwards spread throughout the city. We were compelled to leave New Orleans before this point in our investigation had been satisfactorily accomplished. Enough was developed, however, to render it probable that a connection, as yet untraceable, does exist between the cases of Clark and Elliott, and the first cases among the citizens of New Orleans. It is proper to add at this point that the Commission received a number of letters, and some verbal statements, purporting to give information respecting violations of quarantine by fruit vessels and other ships entering New Orleans from infected ports. Every effort which could be made in the limited time we had for work in New Orleans. was put on foot to ferret out the facts connected with such alleged infringements of quarantine laws. We obtained a sufficient amount of testimony to justify a belief that one or more cases of yellow fever had occurred in the city, probably in the month of June, under circumstances which rendered it altogether possible that they had been brought to the city by conveyances as yet unknown. (See testimony by Drs. Cochrane and Bemiss.)

From the time that the disease made its appearance, in the form of series, or groups of cases, each having connection with some other, either by personal associations, or from exposure in the same locality, we have located the cases upon a map which comprises all the reported cases which occurred in the month of July. To this map have been added a group of cases occurring during the first ten days in August because of their importance when studied in connection with the epidemic

which subsequently occurred in Canton, Mississippi.

The appointment of Col. Hardee as Sanitary Engineer enabled the Commission to begin field work, and they left New Orleans on the 22d and 23d of October.

The plan arranged to be followed, was, that Dr. Howard should leave one day in advance, and inspect the towns of Donaldsonville, Plaquemines, Baton Rouge, and Port Gibson, arriving in Vicksburg by November 3d or 5th. Dr. Cochran, with Col. Hardee, was to leave on the 23d, and to visit all important points on the St. Louis, Chicago and New Orleans Railroad, as far as Jackson, and then taking the Vicksburg and Meridian Railroad to go as far as Meridian, and, returning, reach Vicksburg by the date fixed for Dr. Howard's arrival. The chairman of the Commission was to visit Canton, Yazoo City, and reach Vicksburg by the 1st of November. Both Drs. Howard and Bemiss were accompanied by draughtsmen. Upon arriving at Jackson, Dr. Cochran found that no trains were running on the Vicksburg and Meridian road, and very properly determined to continue up the same road to Grenada and Holly Springs, and from thence to Chattanooga and Decatur, and return to Memphis.

I reached Vicksburg November 1st, and on the 3d Dr. Howard joined me. The indisposition of Dr. Howard had prevented the accomplishment of that part of the work assigned to him, and it was considered better that he should return to Louisiana and complete the study of the epidemic in Donaldsonville, Plaquemines, Baton Rouge, and the Lafourche regions, while I should visit Port Gibson, Miss., Brownsville and Milan, Tenn. There were no means of reaching Greenville except by steamboats, and they ran so irregularly, that it was feared that any member of the Commission starting there as late as November 5th would find delays which would prevent an attendance upon this occasion. With this outline of the routes we took and places we visited, I now proceed to lay before you the methods of study adopted.

At the various places visited, the first object was to secure the cooperation of the practitioners of medicine in the place, and the public officials. From these sources, and from the various officers of the Howard Associations, we obtained the facts which

we expect to lay before you.

We then commenced our work by getting the name, location, and date of attack of the first case of yellow fever in the town. Every point of testimony which could throw any light upon the origination of the sickness of the first cases. was carefully sought for, and faithfully put on record. same line of inquiry was pursued until the disease became so prevalent in the town that it was no longer instructive to continue the study of individual cases. After this. general facts in regard to the visitation of the disease, and circumstances influencing its spread, or in any manner connected with it, were collected and recorded. In every town visited and mentioned in our report, except two, we made a map of the place, located the houses in which cases had occurred, until as large a number of cases had been placed upon each map as was possible to obtain in the short time allotted us for work. The two places excepted are the towns of Lake, Miss., and Paris, Tenn. Maps of both those stations are being prepared, but will not reach us in time to be shown you.

We regard this method of studying yellow fever as an extremely valuable acquisition in any scientific investigation into the habitudes of its poison; especially is this the case where great diffusion and intensified energy give it epidemic force. The sanitarian can look upon these maps and see for himself the precise location of the earliest cases of an epidemic. He can determine what influence, occupation of the same locality exerts upon the spread of the disease. He can see for himself how invariably yellow fever tends to arrange itself in groups of cases, and thus observe its marked contrast with the tendency of malarial fever to occur in separate, disconnected and totally independent cases. He can also study for himself the influences of filth, bad drainage or unsanitary situations, and of elevations and depressions of surface. It is a matter greatly to be regretted by the members of the Commission, that they could not have been afforded time to locate in this manner every case of yellow fever which has occurred in each of the towns visited. In most of the places arrangements were made with the physicians to continue the work of locating cases, until it was rendered as full and accurate as could be done.

In respect to the sanitary condition of the towns visited, we have to report the same character of neglect and violation of laws of health, common to all, or nearly all, inland towns in the United States. These are, neglect of drainage; inattention to deposits of fœcal matter, and refuse animal and vegetable matter; and inattention to the purity of drinking water. The violations of sanitary rules in each one of these particulars are given without reserve, in respect to all the visited towns, except New Orleans. In regard to this city, and, indeed, to all places visited, the chairman and Col. Hardee will each make verbal explanations when called upon, so as to give you the

fullest information possessed.

Sergeant S., of the United States Signal Service, in New Orleans, has prepared for us a series of charts designed to show what influence is exercised over the spread and mortality of yellow fever by meteorological changes. We respectfully offer these charts for your examination and consider them worth the earnest attention of the sanitarian. There is, however, one defective point about them which should be kept in view during their examination. This is that the medical practitioners of New Orleans pay so little attention to the law requiring them to report infectious and epidemic diseases, that the daily report of cases by the Board of Health is neither full nor accurate as to date of attacks. This inaccuracy, like most others in medical statistics, tends to lose itself in the length of time and great numbers of cases included in the scope of the charts.

It is a proverb almost or quite coeval with history, that every locality has, either in imagination or reality, its unhealthy

wind, coming from some certain quarter. In New Orleans the north wind is regarded as the baleful one. A study of these charts will enable the sanitarian to determine the influence of the north winds upon the mortality rate, since that is much more nearly accurate than the daily returns of cases. Again, it is a point of very great importance to ascertain the influence of barometic readings upon the spread of yellow fever. If it is even in a limited degree an air-borne disease, high readings of the barometer should afford atmospheric conditions more favorable to its diffusion than lessened pressure.

The members of your Commission unanimously agree in stating the following facts in regard to their investigation up to the present time, reserving the right to introduce at any subsequent time such antagonistic facts as may be discovered.

First: We have not in a solitary instance found a case of yellow fever which we could justifiably consider as of de-novo-

origin, or indigenous to its locality.

Second: In respect to most of the various towns which we visited, and which were points of epidemic prevalence, the testimony showing importation, was direct and convincing in its character.

Third: The transmission of yellow fever between points separated by any considerable distances, appeared to be wholly due to human intercourse. In some instances the poison was carried in the clothing, or about the persons of people going from infected districts; in other instances it was conveyed in such fomites as cotton bagging, or goods of some description, or bedding and blankets.

Fourth: The weight of testimony is very pronounced against the further use of disinfectants.\* Physicians in infected towns, almost without exceptions, state that they are useless agents to arrest the spread of yellow fever, while some of them affirm

that their vapors are seriously prejudicial to the sick.

Fifth: Personal prophylaxis by means of drugs or other thereapeutic means has proved a constant failure. A respectable number of physicians think the use of small doses of quinine of some use in prevention.

Sixth: Quarantines established with such a degree of surveillance and rigor, that absolute non-intercourse is the result, have effectually and without exception, protected those quarantined from attacks of yellow fever.

It is due to you and the President of this Association and to

all present, it is also a matter of justice to ourselves, that I should declare that each one of us has exercised the utmost

<sup>\*</sup> This must be understood as referring entirely to the testimony of physicians practicing in infected places. Some, as yet unpublished observa-tions made by the Commission, are positively favorable to good results from the use of disinfectants, when applied at the onset of a first case in a locality.

care possible to be observed, that whatever facts we might gather and lay before you, should be facts in reality. We have been cautious in accepting statements not fully vouched for, and in every instance where it could be done, corroborating testimony has been elicited. We have entered upon our work determined that one only object should inspire us;—a desire to bring into the garners of science a contribution whose fidelity to nature and truth, should constitute it an authority even when we shall have passed away.

We have found at every place we have visited, an interest, and desire to cooperate in our work, gratifying to ourselves and full of promise for future investigations. Especially did the medical profession everywhere give their cordial and earnest support. At every town I visited freshly heaped mounds of earth covered the dead of our profession, but the survivors had closed the broken ranks and still did vigorous

battle with the great pestilence.

In conclusion, let us remind our readers, that the next meeting of the American Public Health Association, will be held at Nashville, Tenn. It is an opportunity which should be improved for the advancement of sanitary science in the Mississippi Valley. In this vast and populous region, all of us realize what a crying demand there is for increased diffusion of sanitary knowledge, and a more frequent practical enforcement of hygienic laws.

It is not likely that there will be any Yellow Fever Commission at the next meeting to disturb the composure of certain nervously inclined good people, but in lieu thereof, it would be well for the medical societies of Mississippi and Tennessee, and probably of other States, to take early action in appointing commissions to investigate diphtheria in a thorough and exhaustive manner, and to report facts and conclusions at the coming meeting. Authority and compensation for expenditures and time should be furnished by respective State legislative assemblies.

# REVIEWS AND BOOK NOTICES.

Essentials of Chemistry, Inorganic and Organic, for the Use of Students in Medicine. By R. A. Witthaus, A. M., M. D., Professor of Chemistry in the Medical Department, University of Vermont, etc., etc. New York: William Wood & Co., 1879. I Vol. 800, pp. 257.

We gladly welcome every work intended for the simplification of complex subjects. In the work before us we have presented truly the essentials of chemistry in such a form as to give the student ready access to chemical details illustrative of general principles. The gathering of the various elements into groups expressive of their equal valencies and chemical kinship is instructive; while the amount of detailed knowledge of compounds and their chemical relations compressed under each element is well chosen and full. In the appendix a most valuable, compact and clear process for the qualitative determination of acids and bases is inserted. The method of "question and answer" adopted in the work has, nevertheless, its disadvantages. First, it is apt to limit the knowledge contained in the answer simply to the conditions of the question, and thus present that generalization in the student's mind which is so necessary in systematizing facts of knowledge; and secondly, it occupies valuable space, and dismembers the subject discussed. One of the essentials of chemistry has also, we think, been omitted, namely: a chapter on the transformations of force in chemical processes. In a succeeding edition we hope a specific treatment of dynamical, as well as material transformations may appear. The work can be conscientiously recommended to the medical student as containing essential knowledge in a compact form.

Notices of Books and Pamphlets Received Have been crowded out of this issue, notwithstanding our addition of eight pages to the regular JOURNAL. They will all appear in the January number.

# ROLL OF HONOR.

# THE LIST OF PHYSICIANS WHO DIED OF YELLOW FEVER DURING THE EPIDEMIC OF 1878.

In the light of Divine truth, which teaches that among the noblest deeds of man "is the laying down of his life for his friend," it behooves us to pay some tribute, and rear some enduring monument to the memory of those members of our profession who sacrificed their lives for their fellow men during the epidemic so lately passed. The cry of bitter anguish from the lips of those whose hearts were being made desolate by the ravages of disease, could not fall unheeded upon their ears. From village city and hamlet they came to succor the distressed, and, if necessary, to lay themselves victims on the altar of Christian charity. Noble were the principles which actuated them; noble the deeds they wrought in the name of humanity, and noble was the sacrifice they offered up. Let history record their deeds. We, together with those who loved them, recognize in their death the spirit of the martyr, and have endeavored to place on roll (though we fear the list may be incomplete) the names of these martyrs of Medicine:

DATE.	NAME.	PLACE OF DEATH.	NOTES.
Aug. 30	Dr. J. G. Byrne	New Orleans, La.	
Sept. 7	" Chas. Gallagher	26 26	
" 12		66 66 66	
" 23		66 . 66 . 66	Volunteer from New York.
" 29		66 66 66	" Boston.
" 29	" J. Theus Taylor	66 66 66	" New York.
	Mr. James P. Pepper	66 66 66	Res't. Stud't Charity Hospital,
	Dr. Wilhelm Zinnser	66 66 66	
Nov. 16	Mrs. M. E. Owens, M. D	66 66 66	Volunteer from Chicago.
	Dr. — Bobo	66 66 66	
Sept. 17		Thibodeaux, "	
	" — Glass	Milliken's B'nd"	
	ошил	New Tex's Ldg "	
	" - Roache	Pattersonville,"	
Oct. 17		Tunica, "	
	Daker	Harrisonburg, "	
Sept. 25	" Chas. Kennon	Tangipahoa, "	
Oct. 15	Cal bel	66 66	
0 1 00	n. A. Swasey		TT 313 0.00
Oct. 2%	Li. W. Willallu	Delta, "	Health Officer.
0 1 06	M. A. CCUII	Donaldsonville"	· ·
Oct. 23	COVOLU *******************************	Chinton,	
A 01	. Dombley	Lafourche par. "	
Aug. 21	r. Sarner	Memphis, Tenn.	
" 28	J. C. Rogers	66 66	
" 30		66 66	
		66 66	
Sept.		66 66	
66 9		66 66	
66	" R. B. Williams	46 66	Vol. from Woodburn, Ky.
66		66 66	" " Hopkinsville,"
11 19		66 66	Hopkinsvino,
" 18		66 66	" " Tipton County, Tenn.
" 16	" T.L. Bond.	66 66	" Brownsville, "
10	,		

## ROLL OF HONOR-Continued.

DATI	E.			NAME.	PLACE OF	DEATH.	NOTES.		NOTES.
Sept.	16	Dr.	J. F	R. Renner	Memphis.	Tenn.	Vol. 1	from	Indianapolis, Ind.
66	16	66	T. V	V. Menees	. 66	66	66		Nashville, Tenn.
66	16	66	T. I	Boyd	. 66	46			
66	17	66		Penn		66	66	,,	
66	17	66		Pennise		46		1.00	Indianapolis, Ind.
66	17			n H. Erskine		66	Healt		
66	18			n B. Hicks	0	46	VOL. 1	rom	Murfreesboro, Tenn.
66	18			am Pearce	•	66	66	66	Cincinnati, Ohio.
66	21	66		Bankson		66	66	66	Stevenson, Ala. Fort Wayne, Ind.
66	22	66		. Heady		66	66	66	Sherman, Texas.
66	25	6.6		Surcham		66	66	66	Columbus, Ohio.
66	25	66		gdon A: Chevis		66	66	66	Savannah, Ga.
66	29	6.6		Roberts		66	66	66	Sulphur, Ky.
66	29	66		J. Armstrong	. 66	66			
66	29	66		H. Tate	66	66	66	66	Cincinnati, Ohio.
66	29			uerke		44	66	66	ee 66
65	29	66		l H. Otey		66	66		TWO D I A
0-4	30	66		andy Easley		66		66	Little Rock, Ark.
Oct.	6	66	W.J	R. Lowrey	8	6.6	g <sub>o</sub>	+	Doord of Health
66	6	66		Camania	a	66			Board of Health.
6.6	8			Sample		66	4 OF. 1	тош	Austin, Miss. Nashville, Tenn.
66	10			O. Bartholomew B. Montgomery		66	66	66	Chattanooga, Tenn.
66	13			R. Force		66	66	66	Hot Springs, Ark.
66	18	66		F. Keating		66	66	66	New York.
		6.6		Manning		66	66	66	Austin, Texas.
		66		Avent		66	66	66	St. Louis, Mo.
		66		C. Nagent		44	66	66	Hot Springs, Ark.
		66	—.	Harlin	Paris,	66			1 0 /
Oct.	8		<b>—.</b> I	Milam	Brownsvi	lle,"	Presi	dent	Board of Health.
		66	Joh	n J. Ware	- 66	66			
		66		Wade		66			
Sept.				tlach	Milan,	66			
Oct.	13			Boyd		oga, T'e.			
	13			M. Baird	Old Imma	tion "			
Sept.	20	66		R. Barrton Adams Lindle		tion,			
Sept.				oph Prewitt	7	Ky.			•
Sopu.	To	66		D. Woodward		, Ky.	Volum	nter	from Missouri.
		66	J. W	V. Farris	. 1	66			
		66		. Cook		66			
		66		Blanton	. 46	66			
		£6		C. Catlett	. 66	66			
		66	J. L	ehman	. 66	44			
		66		. W. Woolfolk		66			
Sept.	21	66		Boaz		- 66			
	0.00	66		V. McKrim			a	70.0	TT. 11.3
	27	66	D. V	W. Booth	Vicksburg	g, Miss.	Surge	on M	larine Hospital.
Sept.	5	66		Whitehead		66	Val	from	Tangas Parish Ta
66	5	66		A. L. Potts Bichfeldt		66	4 O1.	HUIII	Tensas Parish, La.
66	16	66		rge Rebay		66			
66	19	66		Norris		66	Vol.	from	Chattanoogo, Tenn.
66	26	66		. Roach		66	1		8-,
		66		Barnes	66	66	1		
	1	66		Barber	. 66	66			
Oct.	6	66		Newman	66	. 66			
66	6	66		Sappington		66			

## ROLL OF HONOR-Continued.

DATE.	NAME.	PLACE OF DEATH.	NOTES.
Oct. 7	Dr. M. C. Blackburn	Vicksburg, Miss.	
66 7	" —. Birdson	"	
" 11	" - Happoldt	Cronado "	Vol. from Morgan Town, N. C.
Aug. 19	" - Hawkins	Grenada, "	
Sept. 1	" — Milton	66 66	
Sept. 1	" W. W. Hall.	66 66	•
" 5	" —. Gillespie	" "	
66 7	" E. J. Hughes	"	
" 13	" May	66 66	
	" — Ringold	66 66	
~	" John E. Lyon	Handsboro, "	4
Sept. 25	" J. W. Fennell	Holly Spr'gs, "	Walandara Com D. : M
" 26 " 26	- LIO W 10	66 66	Volunteer from Denison, Tex.
66 27	" T. D. Manning " F. M. Tennell	66 66	" " Austin, "
Oct. 24	" Wm. M. Compton	"	
0000	" Chas. Bonner	66 66	Volunteer from Hickman, Ky.
Oct. 5	" J. S. McCall	Greenville, "	
" 5	" A. S. Gardiner	66 66	
" 5	" Wm. Montgomery	66 66	
	W. E. Alcher	46 46	
	" Stafford	"	
Aug. 23	" Nathan McKie	Canton, "	
	" W. J. McKie	(6	
Sept. 1	" A. F. Cage	"	
	" Magruder	66 66	
Oct. 1	" W. D. Spratt	Port Gibson, "	
" 1	" J. G. Strowbridge		
, " 9	Thomas Toung	66 66	
	Shougrass		
	" G. C. McCallum	Lake,	
Oct. 22		McComb C'y, "	
0000	" B. F. Gatlin	" " "	
	" Gaddes	Wash. co., "	
Oct. 18		Cairo, Ill.	Surgeon Marine Hospital.
	" Cattell	Unknown.	
	" Cone		

# METEOROLOGICAL REPORT FOR OCTOBER, 1878.

	l m	EMPERATU	DW	1 4	1 2	1 .
Day of Month.	Maximum.	Minimum.		Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches
1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	86 86 86 86 87 86 87 88 81 79 81 82 79 84 78 67 69 76 70 67 72 75	72 72 73 73 70 71 70 72 72 69 68 71 64 68 69 69 70 61 50 53 60 57 49 53 59 63 59	14 14 13 13 17 15 16 7 9 3 8 17 14 10 15 8 10 17 16 16 13 18 19 16 14 15 16	29.979 29.994 29.979 29.985 30.019 30.029 30.051 30.044 29.966 29.892 29.976 30.544 30.095 30.102 29.998 30.084 30.119 30.094 30.110 30.063 29.984 30.084 30.181 30.192 30.219 30.196 30.187	76.3 76.0 73.0 56.3 74.3 76.0 72.6 83.0 85.6 83.0 76.0 66.0 66.6 73.0 73.3 72.6 60.6 36.3 52.0 67.3 72.0 53.7 51.7 70.3 75.0 79.3 77.0	.53 .00 .00 .00 .01 2.05 .20 .00 .00 .00 .00 .00 .00 .00 .00 .00
28 29 30 31	66 70 70 66	50 59 62 ,	16 11 8 13	30.103 29.898 30.135 30.374	72.3 80.0 72.0 38.7	.01 1.48 .00 .00
Mean	77.37	63.9	13.2	30.086	62.63	Total: 5.07

# MORTALITY IN NEW ORLEANS FROM OCTOBER 27 TO NOVEMBER 31, 1878, INCLUSIVE.

Week Ending. Yell Fev			Malarial Fever.	Consumption.	Small- pox.	Pneu- monia.	Total Mortality.
Novem	ber 3	69 31	19 12	15 23	* 0	3	193 152
" 66	17 24.	29 14	7 10	21	0	10	135 104
66	31	4	7	14	0	9	100
*							
Tota	ls	147	55	89	0	34	684

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

# JANUARY, 1879.

# ORIGINAL COMMUNICATIONS.

### Address

Delivered at the Fifth Anniversary Celebration of the New Orleans Medical and Surgical Association.

BY THOMAS LAYTON, A.M., M.D.P.

December 7th, 1878.

#### Mr. President and Gentlemen:

Whilst profoundly grateful for the honor of being elected the orator of this Anniversary Celebration, I shrink, however, from approaching the subject appropriate to the circumstance.

The difficulty of undertaking to cuil from the field of medicine, and to glean from among the many sheaves which have been lavished upon the profession, would offer a sufficient excuse for trembling on the part of the most competent reviewer.

Therefore, gentlemen, do I feel myself entitled to claim your utmost indulgence, and your partiality to me upon this occasion emboldens me to hope that my appeal will not be made in vain.

The struggle with yellow fever, from which we have just emerged, is naturally uppermost in our minds. Its memories are so fresh, its wounds so gaping, that all classes of society gladly turn aside from the contemplation of the ghastly picture.

We physicians cannot do this: we would be recreant to our mission and false to our friends did we venture to rest now that the danger is over. The storm may return: the history of the past teaches that we may not, with impunity, neglect the lessons of experience.

We must, then, labor on, and, reversing the adage, prefer to grope after light, though we may be surrounded by darkness, rather than stay our footsteps in the, perhaps, vain hope that dawn may appear, without requiring our assistance to remove the spell under which its advent is bound.

All honor, then, to the manly spirits in our profession who frankly admit their ignorance in the matter of yellow fever.

They thus unconsciously proclaim their aptitude as the investigators of the future.

What matters it, if no result have as yet been attained?

Must we, can we, without degradation, fold our arms, awaiting our doom in the attitude of fatalism?

It were an insult to human intellect to attempt the framing of an answer.

It would be a tedious and fruitless task, to endeavor to present even a summary of the varied speculations which have been entertained with regard to yellow fever in the past.

Narrowing the field and surveying its present limits, two opinions are found to number partisans.

The one holds that the germ of yellow fever is always imported, and that it never originates locally. Therefore, the conclusion is self-evident: if the germ—be its nature what it may—can be kept out, New Orleans will henceforth be exempt from yellow fever.

Now, however, arises the difficulty: how is this germ to be excluded?

By a rigid quarantine, which, in order to be made effective and to prevent unjust discrimination, must be placed under the control of the General Government, is the answer suggested by eminent authorities.

But, others say, such a quarantine is practically impossible, for reasons which have been so elaborately produced elsewhere, that it is entirely unnecessary to enumerate them here. Instead of such a quarantine, it is proposed, that if the holds of all vessels coming from ports reputed to be dangerous, be disinfected, the same result will be attained.

In opposition to the view of importation as the sole mode of origin of yellow fever, a large body of physicians are met with, who, whilst they do not deny that yellow fever may be imported, and may even be willing to assent that the recent epidemic was of foreign birth, still claim that under certain ill defined and as yet unsatisfactorily studied atmospheric, or other conditions, the poison of yellow fever may be generated here and in other localities circumscribed by certain degrees of latitude.

For such, therefore, quarantine is useless; they may consent to the disinfection of vessels, because they neither gainsay the possibility of importation nor are they prepared, for the present, to formulate an opinion as to the greater or less malignity of the foreign disease when compared with that of topical extraction.

These object that the quarantine proposed would cost New Orleans untold millions.

Of course this loss would not be allowed to weigh in the balance were quarantine a certain remedy, instead of an experiment, in which they claim the unknown factors are so important that it is, to say the least, unsafe to be confident of success.

If a large outlay be required for the protection of New Orleans and the neighboring towns and villages, which, justly or unjustly, have credited our city with their own losses during the past few months, let at least a portion of the amount to be expended go towards draining our swamps and giving us a bountiful supply of Mississippi water, for domestic, sanitary and protective purposes.

With reference to the water supply of New Orleans, my attention has long been drawn to the fact that the great majority of our population are compelled to depend upon cisterns, whose contents are often so unclean as not to require microscopical examination for the detection of living organisms.

That the drinking of such a fluid cannot be conducive to health requires no demonstration. Indeed, one of our distin-

guished physicians † writes as follows: "I am not at all dis-"posed to establish that this (rain water T. L.) is the cause of "yellow fever. I cannot say. But said rain water is a cause "of debilitation and of poisoning which may give rise to many "and various pathological disorders, thereby complicating any "and all diseases." I believe none will deny that New Orleans is sadly deficient with reference to drinking water.

In the height of the panic of the last few months, and with the desperation of drowning men clutching at straws, the sweeping charge was made and widely spread that our intra mural cemeteries were responsible for the ravages of the fell destroyer.

At the time this accusation was being circulated through the medium of the daily press, I endeavored to stay the perhaps unreasoning torrent of popular feeling by suggesting a suspension of opinion.

As my action was based upon a sincere desire of ascertaining the truth, and as I proposed that the examination of the point at issue be conducted rationally, I may be allowed to state the substance of my ideas. I wrote about as follows: ‡

The grave yard question is one of those in which probably the majority of our population are interested. It is therefore urgent that it should be investigated calmly, and that, from the very outset, panic or any other consideration not based upon reason and evidence should be carefully eliminated.

Wherever human beings are massed together, cemeteries are eminently deserving of that attention which they receive from thoughtful minds.

On the one side is found the universally fostered veneration which throws its mantle of protection around these places of rest, replete with historical reminiscences and hallowed by tender associations; and on the other, hygiene declares that the graveyard is, or may be a source of danger to public health.

If science be correct, then pure sentimentality must be put down; but, precisely, because in this instance, sentiment has sent forth its roots into every hearth, science should avoid

Dr. J. G. Hava, in N. O. Democrat Dec. 1st, 1878.

<sup>;</sup> New Orleans Bee, August 15th, 1878.

being unnecessarily dictatorial, and its judgment should only be rendered, when the proofs of conviction are indisputable.

In localities where ground or river water is used, no doubt burial in the earth is frequently dangerous. This danger, as we all know, need not be apprehended in New Orleans.

There remains, then, the question of atmospherical vitiation when corpses are deposited in tombs or ovens built above ground.

This condition obtains in our city graveyards. Before condemning them, however, is it an established fact that the localities in the neighborhood of our graveyards are more unhealthy than those which are removed from these reputedly obnoxious foci?

It is very doubtful if this subject has ever been investigated. Then, if I be not in error in this regard, is it rational to be frightened by a phantom? Would it not be wiser to examine dispassionately before deciding hastily? I therefore make the following suggestion: let the proper authorities examine the subject.

Let a given graveyard (or more than one, if it be deemed advisable) be taken in block with a certain number of squares in its neighborhood, and be compared with a corresponding number of squares situated in another portion of the city where there is no cemetery. (It is hardly necessary to say, that these two groups of squares should be comparable in point of population.) Now let the comparative mortality of these two groups of squares be studied during a number of years—the greater the better.

If the result of the investigation should prove that the mortality in the squares bordering upon the graveyard is heavier than that which obtains in the other group remote from such influence, there can be no hesitation possible: the city cemeteries should be closed at once, and new ones opened at a safe distance.

It may be said that the proposed examination is impossible. A moment of reflection, however, will show its entire feasibility, because all the necessary data are at hand, and our hon-

orable Board of Health would, doubtless, throw open freely its records to any one authorized to prosecute this study.

But if, contrarily to present belief, it should be shown that the squares in the vicinity of cemeteries are no worse off in the matter of health than others which were thought to be more highly favored in this particular, then it might be urged that some consideration should be had for the feelings of a majority of the population; certainly, until the existence of peril should be placed beyond doubt.

And I also suggested, that whilst the strictest sanitary measures should be adopted in the administration of our graveyards, at the same time they should not be pitilessly condemned beforehand, by a tribunal from which there can be no appeal.

A point in the history of the late epidemic, which, however it may be interpreted, I think can be introduced here with propriety, is the following: I found that in my experience this summer, more cases of fever occurred in the streets running from the swamps to the river than in those whose direction is parallel to that of the Mississippi.

Thus, on looking over my notes of 340 cases, I observed that 233 had occurred in the cross streets, or streets running from the swamp to the river, and 107 in those, whose direction is parallel to that of the river.

If more extended observation should confirm the above unequal distribution of fever cases, might not the explanation lie in the fact, that the poison from which the fever arises (and I shall venture no supposition as to the nature of that poison, in order to leave the question free from bias), by following the gutters, may be at greater liberty to creep along the cross streets, advancing in a direct line from the swamp towards the river, whilst the smaller number of cases in the parallel streets may indicate that, owing to the angle at street corners, only a portion of the main current of poison may leave the gutters of the cross streets, whence a lesser degree of poisoning of the parallel streets.

All this may be nothing but theory, and perhaps hardly ingenious at that, still the idea is thrown out, to make its way or

perish, according to the decision which may be arrived at by more extensive experience.

General discredit seems to have overtaken disinfection in yellow fever, in consequence of its failure to keep what was supposed to be its promises last summer.

Its promoters, however, may claim to be entitled to say in its behalf, that the want of success should not, in all fairness, be laid at the door of disinfection itself, but ought rather to be ascribed to the practical difficulties attending its application on a large scale.

In fact, who can gainsay that, whilst it may be an easy matter to disinfect a small space—the hold of a ship, for instance—the real difficulty begins when a large city requires to be disinfected.

Still, unless in the future some more perfect means can be devised for the diffusion of disinfecting agents than those now at the command of the Boards of Health, disinfection itself is likely to be viewed with disfavor, on account of its expense, without perceptible benefit.

If we turn our attention to vital statistics, in order to estimate the loss to our city, attributable to an epidemic, the thought of comparing the mortality of a healthy with that of an unhealthy season suggests itself readily.

For instance, if we compare certain months in 1877 with the same time in 1878, we obtain the following figures:

In 1877, from April 30th to November 25th, the total mortality of the city was 3688, of which there were 1 death from yellow fever and 344 from malarial fevers.

In 1878, from April 22d to November 30th, the total mortaity of the city was 8289, of which 4044 deaths were from yellow fever, and 667 from malarial disorders—the difference on the side of loss in 1878 being 4601.

In 1878, the total number of yellow fever cases reported to November 30th was 22,217. The total number of deaths from that disease having been 4044, the epidemic death rate is 18 per cent.; or, to be more accurate, one hundred and eighty-one thousandths.\*

<sup>\*</sup>For the above figures I am indebted to the courtesy of Doctors Choppin and Taylor, President and Secretary of the Board of Health,

It would be interesting if it could be ascertained what was the proportion of our colored population which suffered from the fever last summer. Perhaps this subject will form a part of the annual report of the Board of Health.

In my observation, out of 350 cases of yellow fever, only 8 occurred among colored people, which would furnish the proportion of but 22 colored persons for 1000 of the white race.

This proportion is mentioned with great reserve, as it may be modified by the collation of a more imposing array of figures.

Now that the whirlwind has spent its fury, and that the epidemic of 1878 belongs to history, is it vain or premature to hope that a ray of light is at length to illumine the protean subject of yellow fever?

Must the profession continue to hear itself addressed unavailingly year after year, by the general public, in the language of the bard of Avon?:

"The water of my land, find her disease,
"And purge it to a sound and pristine health,
"I would applaud the to the very echo,
"That should applaud again....."

Let us trust that a new laurel wreath may shortly grace the brow of the Science of Life, and that to the other countless benefits humanity has received from medicine in the past, may, in the not remote future, be added at least some knowledge of the means whereby a triumph over yellow fever may be assured.

Gentlemen, the New Orleans Medical and Surgical Association has been fortunate in not losing any of its members this summer; although our late worthy President and several of our members who were away, combating the common enemy upon other fields of battle, as well as those amongst us, who remained in this city, encountered all the fatigues and put forth all the exertions, whose intelligence is easy only when the true meaning of the term "Yellow Fever Epidemic" is apprehended.

We certainly have reason to rejoice that no names are missing, at roll call, and along wth emotions of gratitude swelling

<sup>&</sup>amp; Macbeth. Act V: Sec. III.

our bosoms, we experience the feeling of satisfaction—it is not one of pride—which comes of a consciousness of duty performed to fellow beings in a time of dread emergency.

Foot-sore and heart-sick the physician has pursued his weary round, staggering under a load of responsibility, realizing that if all "power is of short life, a long sickness is troublesome to the physician," † at least it is sometimes given him to say with sentiments akin to triumph: "The physician cutteth off a short sickness." †

Who that has once tasted the sweets of having been instrumental in saving life, would forego the happiness so enjoyed?

The physician's highest reward, too, does it not lie in the fact that a grateful family, a thankful community then realize the force of the precept: "Honor the physician for the need thou hast of him; for the Most High hath created him."

But if we have not to mourn the loss of any member of our Association, we grieve nevertheless at the sad havoc caused by the terrible visitation among the ranks of the profession in our own and adjoining States during the past few months.

It is meet and just that we should unite with the populations who witnessed their devotion, to whose weal they sacrificed their lives, in paying such tribute as we may to those heroes, who, heeding only the call of humanity, and disregarding personal considerations, fell in an unequal struggle.

Let us place on record our appreciation and our admiration. Let our tribute to the memory of those martyrs of the profession be the secret resolve to emulate their example!

A ray of light has dispelled the gloom which overshadowed our fair land.

Hardly had the wail of distress gone forth, before our fellow countrymen, throughout the Union, and our friends in foreign lands, with admirable enthusiasm, poured forth the treasures of their abundance upon the sick and destitute of the South.

Gentlemen, in the guilelessness of our youth, we are taught that of the trio, Faith, Hope and Charity, the last is the greatest and the most enduring, because unlike its companions it is

<sup>†</sup> Ecclesiasticus, x: 11.

<sup>2</sup> Ibid, z. 12. ||Ibid, xxxviij, 1.

immorta and under the name of "Love" constitutes the bliss of Heaven.

Truly have we experienced a foretaste of that bliss—were it only in our having learned the lesson that there is a bright side to human nature.

All the minor asperities of life melt away, when the best instincts of man rise uppermost.

With feelings of profoundest gratitude we tell our benefactors how the truth of the inspired words has come home to our hearts: "Many waters cannot quench charity, neither can the "floods drown it: if a man should give all the substance of "his house for love, he shall despise it as nothing."

Public attention has been called recently to the unpleasant statement of the existence of leprosy in this State.

At the late meeting of the Louisiana State Medical Association, this subject was agitated, and on motion of Professor S. E. Chaillé, a committee was appointed to frame a report concerning this disease, which report is to be presented at the meeting of the Association in 1879.

Several months ago, I was called upon to see a lady, whom I found in a condition almost moribund, and in whose case I had but little to do besides giving a certificate of death.

This lady was of Spanish extraction; she was aged 54 years, and was an old resident of New Orleans.

She was suffering from a skin disease of several years standing, totally unlike anything I had ever seen. My suspicions became aroused, and I determined to study the matter carefully, never having met with leprosy.

In the meanwhile, the surroundings of my patient, of Spanish extraction themselves, began to suggest the possibility which had already occurred to my mind, and were exceedingly desirous of avoiding unpleasant notoriety.

Whilst I was studying the case, the lady died. I admit frankly that I did not give a certificate of leprosy; my mind was not then fully made up, and, under the circumstances, I considered it my duty to spare the feelings of her friends.

Since that time, having continued my reading upon this topic,

º Cant. viii, 7.

I have become almost certain that I had, in the person of my patient, met with the opportunity of seeing a veritable case of leprosy.

This fact is mentioned, because in view of the interest the subject is likely to excite, no contribution, however imperfect it may be, should be kept from the knowledge of the profession.

Doubtless, the report, which will be communicated to the Louisiana State Medical Association in April next, will convey much curious information, and the importance of the issue raised by the statements freely made concerning the existence of leprosy in our midst, will, I trust, serve as my apology for having briefly brought the matter to your notice this evening.

I do not propose to detain you by a summary of the more recent achievments and acquisitions in the various departments of our profession, as your familiarity with these needs not the dry recitation of a catalogue, but I would rather address you upon subjects, which, as they influence the philosophy of medicine, cannot but concern ourselves in the manifold daily relations of life and death by which we are environed.

It has become customary among a large class of scientists, to inveigh against what they are pleased to term dogmatism.

They, perhaps, do not reflect that in opposition to the impediment, which, they say, is thus offered to progress, a code is set up intolerant of everything not in accord with its own rulings.

This course would be perfectly correct and legitimate, were the articles of such a code proved to be established upon undoubted and undisputed scientific grounds.

But here arises the difficulty: few are found willing to agree with Falstaff in considering

" learning a mere hoard of gold "Kept by a devil."

Therefore, to dispossess this evil spirit, and gain access to the treasure so jealously guarded, schools differing widely among themselves are founded upon the doctrines of men.

Opinions rise to the surface, float for a greater or less period

<sup>†</sup> King Henry IV., Act IV., Scene III.

of time, according to the authority of their parentage and their own degree of plausibility, but experience and an impartial review of history show that opinions succeed each other like the waves of the sea, the one in advance being wiped out by its successor, which in turn is destined to be swept away by the constantly advancing tide.

Amidst the clashing of systems, adversaries forget the warning, so beautifully expressed, that,

- "......All life is brief;
  "What now is bud will soon be leaf.
  "What now is leaf will soon decay.
- "The wind blows east, the wind blows west; "The blue eggs in the robbin's nest
- "Will soon have wings and beak and breast,

"And flutter and fly away." †

The dispassionate observer who seeks after that abstract entity named truth may well refuse to yield speedy acquiescence in the doctrines of the day.

He may be pardoned if, with the lights before him, he view them

"As grass upon the tops of houses, which withereth

"before it be plucked up:
"Wherewith the mower filleth not his hand; "Nor he that gathereth sheaves his bosom." ‡

## Mindful of the fact that,

"All things have their season, and in their times all things pass under heaven."

he will stand unmoved, for if he hears the battle cry that science fears not truth, he knows full well that truth stands upon an adamantine pedestal-itself-that it heeds not the storms raging around its atmosphere, that it dreads them not, and that however terrible the struggle, there can be but one result-truth will prevail.

Soaring above the smoke and din of conffict, and witnessing the alternately advancing and retreating lines of battle, truth or science—for they are one and the same—serenely awaits the

<sup>†</sup> Longfellow: Keramos.

<sup>!</sup> Ps. exxviij ; 6, 7.

<sup>[</sup> Ecclesiastes: iii, 1.

moment when a truce will be declared, reminding the combattants, however, that,

> .....This earthen jar "A touch can make, a touch can mar;
> "And shall it to the Potter say,
> "What makest thou? Thou hast no hand?

"As men who think to understand "A world by their Creator planned,

"Who wiser is thanthey."

Another tendency which is closely allied to the assault upon dogmatism, is the disposition to break off with tradition in medicine.

It has also become customary in certain circles to look upon the authorities of the past as so much rubbish.

That such action does not denote great reflection seems clear, for as it has been aptly said: " .... is it not evident that, "without tradition, there can be no such thing as a school, or, "at least, nothing of a durable character in a school? And in "this sense, can it not be affirmed, that every society which "breaks off with its past has no future? The separation, the "greater or less division of its members, is the inevitable con-"sequence of a rupture of this kind; and the only result of "such separation or such division can be the setting up of "ephemeral individualities, or at most, of insignificant rival "sects, which wane more or less rapidly."

Why in medicine we should be more disposed to renounce our professional ancestry and to deny our descent than our brethren of the other liberal pursuits, is a matter worthy of examination and study, because it is difficult of comprehension.

The possession of a Raphael or a Paul Veronese does not cause the painting of the præraphaelite epoch to be less highly esteemed.

On the contrary, each is valued for its own merits; neither detracts from the other, and from the comparison of the two. valuable lessons are derived.

So it is in literature. Are Homer and Virgil forgotten because of Chaucer and Spenser and Milton and Shakespeare? Rare old Ben Johnson, Goldsmith, Cervantes, Petrarch and Dante, Schiller and Goethe, Lafontaine and Racine, Moore,

<sup>!</sup> Longfellow, Tbid.

Science Médicale et Doctrine Traditionelle.-J. C. Faget, M.D.P. [trans'n mine. T. L.]

Byron, and others too numerous to mention, who would forget or discard them, on the ground that more modern productions have left no room in the fields of memory and appreciation?

The same obtains for music, too: Bach's immortal fugues; Beethoven's emotional Pastoral Symphony and his symphony "Eroica;" or Haydn's graceful "Surprise;" or Mozart's genius; or Mendelsohn's tender "Chanson du Printemps," have they paled in the presence of "William Tell" or the dissonant orgies of Wagner's "Tannhauser" and "Ring of the Niebelungen"?

Has even the majesty of "Moses," in San Pietro in Vincoli, eclipsed the lustre of the art which created the "Gladiator," of whom the poet, in after centuries, catching the inspiration of the sculptor, writes:

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" ..... his manly brow "Consents to death, but conquers agony, "
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Gentlemen, can it be that Hippocrates, Galen, the Moors of Spain, Stahl, Bichat, the mediæval alchemists who were the parents of our modern chemistry, and hundreds of others, whose enumeration would be tedious, have built upon sand?

Are all their labors mere chaff? Would it not seem like casting pearls before swine to reject the grain? Can the superstructure stand, if the foundation be washed away?

No doubt in the dark past and the early gropings of our art there is much that is useless in the sunlight of what we consider our present day, but there is much also that is inappreciably valuable.

Let us therefore endeavor to sift carefully the lore of tradition, and if we must:

"Ring out the old, ring in the new,"

let us also

"Ring out the false, ring in the true." t

In casting a retrospective glance at the working of this Association, the older members can point with pride to its continued progress from its foundation to the present time.

Those, who, like myself, have not followed it throughout the

<sup>&</sup>quot;The arena swims around him—he is gone,
"Ere ceased the inhuman shout which hailed the

wretch who won."

<sup>+</sup> In Memoriam, Tennyson.

various phases of its existence, but have more recently been enrolled in its ranks, must sincerely congratulate themselves on having been admitted to membership, on account of the examples of professional etiquette and courtly bearing exhibited on all sides, and under all circumstances.

It might be considered unbecoming to allude to the scientific labors of the Association at its weekly meetings, for it could perhaps be said that it is for others—not ourselves—to judge of the tree by its fruits, still it is not vanity, nor is it useless that we ask ourselves if each individual has not been benefited by his attendance at our sessions?

May it not frequently have happened that each one has returned to daily professional routine, revolving in his mind some fact either previously unknown, or vividly recalled to memory by the papers read and elaborated in the customary discussions which followed their presentation?

Activity was the aim and the watchword adopted at the start.

As a recently admitted member I can certainly testify as to my observation of the diligent care taken for the maintenance of that aim, and the zeal required in the fulfillment of duty to that watchword.

And I have been struck with the applicability of the advice (which I beg permission to quote here) given me at the outset of my career as a practitioner of medicine, by one of my illustrious masters, the lamented Monneret, who wrote me in the following terms: "Let us physicians not forget that our most "precious motto is this: "LABOREMUS," and let us repeat it, "even as did the Roman Emperor, on his bed of death."

Gentlemen, permit me, in conclusion, to give expression to the hope—in which I feel convinced all will unite—that the past record of the New Orleans Medical and Surgical Association will be its surest incentive towards inscribing properly the tablet of its future, and towards upholding steadfastly the "banner with the" not to us

<sup>&</sup>quot;.....Strange device
"Excelsior!"

## Reign of Law in the Universe.

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Extracts from Introductory Lecture to Course of Medical Chemistry, delivered

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## I. DEFINITION OF LAW AND PHYSICAL FORCE.

Law, as applied to physical and physiological phenomena, literally means nothing more than the fixed mode in which they are related, and are uniformly manifested. Thus when we speak of the wide reign of certain laws or physical forces, we do not intend to convey the idea that this property law or force exists independently of matter, as if matter was directed by it or was compelled to obey its commands.

We do not observe physical forces, but infer their existence from their effects, by a mental process. We know nothing of physical law or force apart from matter. Whilst it is true that the aim of science is the discovery of laws, and through this discovery the attainment of foresight, and the power of acting on nature; at the same time to say that the universe is governed by fixed laws, is to affirm nothing more than that its component parts are endowed with special properties, and are related in a definite manner, and manifest their relations in definite modes. Upon the final analysis, physical law expresses nothing more than the fixed mode in which the Creator and Governor of all things has constructed and related the component members of the physical universe. In discovering these laws the human mind has revealed to it, in a manner and in accordance with its limited powers, the *Creative Plan or Idea*.

If the exterior world be interrogated, or if the phenomena be rightly analyzed, which lead to the recognition of the existence of any separate force, there will always be found regular sequence, and the fact that certain events follow according to a definite order. Thus with reference to the grand force of Gravity. The astronomer finds that the planets of the solar system revolve around their luminaries in certain curves and with certain velocities; the order of these motions he terms

their law, and the cause of that law the force of gravity. But the force of gravity is perceivable in the planetary system, in the fartherest heavens, and in the earth around us, only as indicated in the regular sequence or order of events. The philosopher has been led to ask: Is the force of gravity nothing but a name for orderly succession? Does unconnected but regular sequence constitute the sum of knowledge concerning the harmony of the universe? The analysis of the mental process involved in all such generalizations, with reference to the existence of the exterior world, reveals the belief in the reality of Power-of something that sustains succession and causes order. Upon the strictest scrutiny, it has been concluded that the human mind raises material Laws into Forces, by primarily connecting the idea of Power with no change or movement, except an act or determination of the Free Will, and from such acts that idea is inseparable. If, therefore, to explain the progress of material things, the agency of efficient causes be required, those philosophers appear to be most just and wise who hold that this is a direct and solemn recognition, through all form and transciency, of the necessity of an ever present CREATIVE POWER, requisite and effective to uphold and renew the universe every moment, and to prolong creation by the persistence of the creative act.

The divisions of animals, according to branch, class, order, family, genus and species, are natural and not artificial; they are not the devices of the human mind to classify and arrange knowledge in such a manner as to bring it more readily within our grasp, and facilitate future investigation, but have been instituted by the Divine Intelligence as the categories of Hisemode of thinking. The philosophic naturalist admits that he is only the interpreter of a Divine conception in his attempts to expound nature; and in his systems of science and classification of the objects and forces of the exterior world, he follows only and reproduces in his imperfect expressions the plan whose foundations were laid in the dawn of creation. The order and arrangement of the natural sciences, therefore, are based upon the primitive and pre-arranged relations of inanimate and animate bodies, and they have, therefore, been regarded, with

truth, as translations into human language of the thoughts of the Creator. And in this adaptability of the human intellect to the observation, description, classification and translation of the order and relations of phenomena, has been founded an argument for the affinity of the human mind with the Divine Creative Intelligence.

In like manner, when medicine rises out of the position of a mere art, and assumes the rank of a science, it will include the exact and logical classification and description of the structure constitution and functions of all parts of the body, in health and disease, and as influenced by variations of food, habits, climate and drugs.

Humboldt endeavored to show that the universe is a Kosmos, a divine whole of life and intellect, by its all pervading and eternal laws, but the ancient philosophers in their cosmogonies as well as cotemporary writers, have regarded these laws as the mandates of an infinite, all pervading and perfect reason, and as the expression in human language of the thoughts of God.

The Rev. Baden Pervel has well said, that all sciences approach perfection as they approach to unity of first principles. and differently applied indeed, according to the different nature of the material objects contemplated, but in all cases, recurring to, or tending towards certain high elementary conceptions, which are the representatives of that unity of the great arechetypal ideas, according to which the whole system is arranged, Inductive conceptions, very partially and imperfectly realized and apprehended by human intellects, are the exponents in our minds of those great principles in nature. The great inference of uniformity is corroborated not only by the successively more and more comprehensive laws of nature which science exhibits, but by the very possibility of the existence of such a thing as systematic science; not only by the accumulative proofs existing in nature, but by the marvellous adaptation and harmonizing disposition of the human mind for appreciating and discovering them; not only by the occurrence of natural events in invariable order, but also by the possibility of expressing them by laws conveyed in exact terms, and advancing deductively

to the prediction of other phenomena. "Thus, even this preliminary condition of all inductive inquiry affords confirmation of the principle of unity of design, connecting the physical with the intellectual world; and this in a still higher degree, as all sciences are seen to tend towards unity. The actual laws and profound principles which regulate the mechanism of the universe are the originals, the conception and expression of them in the mind of man, only bad copies. The vast assemblage of physical causes, whether the great principles of cosmical forces or the minutest molecular affections as they exist in the heavenly spaces, or among terrestrial atoms, are the realities—the expression and demonstration of them in the mind of the philosopher only their images. All science is but the partial reflection in the reason of man of the great all pervading reason of the Universe. And thus, the unity of science is the reflection of the unity of nature, and of the unity of the superior reason and intelligence which pervades and rules our nature and from whence all reason and all science is derived."

All induction begins and ends in the conception of order, arrangement and uniformity throughout nature; and this, however inadequately comprehended by our science, is again the evidence of supreme mind and the universality of order in time and space, the manifestation of the universality and eternity of the Supreme Mind.

## II. WIDE REIGN OF LAW IN THE UNIVERSE.

In the survey of the Universe all natural phenomena have been divided into two great classes, celestial and terrestrial.

Astronomical phenomena affect all bodies, whether they belong to this world or to the Universe, and at the same time they may be said to be independent of all others. All bodies attract each other in direct proportion to their masses, and in inverse proportion to the squares of their distances. This law, which is the sublimest of all generalizations and the foundation of the science of astronomy, affects all bodies, inorganic and organic, inanimate and animate.

The researches of astronomers are continually enlarging our

conceptions of the wide reign of the law of gravity. The number of double stars (those both optically and physically double), observed by Sir William Herschel (1776, 1804); by Otto Struve in Pulkowa (from 1813 to 1842); by Sir John Herschel (from 1819 to 1838); by Bessel; by Argelander at Abo (1827, 1835); by Encke and Galle at Berlin (1836 and 1839) by Preuss and Otto Struve in Pulkowa (since the catalogue of 1837); by Maedler in Dopart; by Mitchell in Cincinnati, United States of America; and by several other astronomers, may be estimated with some certainty at 6000. The number of the double stars, the elements of whose orbits it has been possible to determine, was stated in 1859 to be sixteen. In every one of the binary systems of stars, † which have been sufficiently examined, the two systems are found to obey unswervingly Kepler's two laws; from which, by Newton's process, we infer that these grand orbs are held together by the force of gravity. The vast ocean of space and matter under the dominion of the force of gravity, even supposing it to be limited to these double suns, revolving around their common centres of gravity, is beyond all comprehension, for the light from many of these systems has to travel years, and even centuries, before reaching our globe. A faint conception of the immensity of the distance may be formed when we reflect that light passes over 191,515 English miles in one second. According to astronomers, the light of the most distant stars requires not merely centuries but thousands of years to reach our globe. conception of the extent of the reign of the law of gravity is further widened when we consider not only the immense distances of the stars from our earth, but also the immense orbits described by these double stars around their common centre of gravity, and especially the immense periods of time required for the completion of a single revolution. The periods occupied by the motions of sun around sun, are exceedingly various, some occupying but a brief rapid cycle of fifteen or sixteen

History of the Royal Society, vol. III, 1757, p. 225. An Inquiry into the Probable Parallax and Magnitude of the Fixed Stars, from the Quantity of Light which they afford us, by the Rev. John Mitchill, Philos. Trans., vl. LVII, pp. 234-261. Outlines of Astronomy, by Sir John F. W. Herschel, Philos., 1855, p. 475. Popular Astronomy, by Francis Arago, London, 1851, pp. 288-317. The Architecture of the Heavens, by J. P. Nichol, L. L. D., London, 1851, pp. 165, 268. Cosmos, a sketch of a Physical Description of the Universe, by Alexander Von Humboldt, London, 1851, vol. I, pp. 136, 139, vol. III, pp. 271, 289.

years, and others occupying thousands; whilst in others the changes are so slow that they are almost imperceptible, and betoken circuits of immense spaciousness and duration.

The march of our sun, with his attendant planets, through the great ocean of space, at the annual rate of 154,185,000 miles‡ around a distant unknown centre, supports still more strongly the conclusion that all the particles of matter in the Universe are mutually related. The motion of our sun is so swift that it would carry the solar system to the nearest known star, a Centauri, in 130,000 years, and to the boundary of the mighty sphere containing all the stars of the first magnitude, in about 800,000 years; and in 4,000,000 of years, if our great luminary continues rolling onward, persistently in a straight line, we might be swept to the extremities of those depths, to which the unaided eye can penetrate.

If Sir William Herschel is correct, our sun might sweep to the remotest outskirts of some regions of the Milky Way in eight hundred millions of years. M. Fontenelle, Secretary to the Academy of Sciences in Paris, in his "Conversations on the Plurality of Worlds," published in 1686, the year before Sir Isaac Newton gave the Principia to the world, held that the Fixed Stars are as many suns, each of which illuminated a world; and in an account of the observations of Cassini, upon the proper motion of the stars, said: "All the fixed stars are so many suns, centres like our own sun, each of its proper vortex; but centres only in a certuin way, and which may move around a more general centre. The sun himself may move in this way." Bradley, in his Memoir of 1748 upon the mutation of the earth's axis, hazarded a similar conjecture. Ever since this time the conviction has been growing in the minds of astronomers, that the so-called fixed stars, together with our sun, are by no means stationary stars, but they all have a proper and real motion of their own; and the bold creation of poetic genius in regard to a vast and all-controlling

<sup>‡</sup>J. F. W. Herschel, Outlines of Astronomy, p. 494. Arago's Popular Astronomy, p. 363. Bessel in Schum, Jahrb. fur 1839, s. 51. Arago in the Annuaire, 1842, pp, 368–399. Argelander on the Proper Motion of the Solar System, 1837, s. 13. Otto Stuve in the Bull de l'Acad de St. Petersbs, 1842-44. t. x, No. 9, pp. 131, 129. Nichol's Architecture of the Heavens, p. 242. Humboldt's Cosmos, vol. 1, p. 134. Bible and Astronomy, by J. H. Kurtz, pp. 357, 363.

central sun, which enchained the millions of other suns to itself and caused them to revolve around it in unswerving obedience—through the might of its preponderating gravity, seemed by the discoveries of Herschel, Argelander and Otto Struve, to have obtained a scientific basis. If it be true that the countless stars of our system suspended in space, affect each other in exact proportion to the square of their distance, according to the law of gravity: it follows as a reasonable inference, that these countless attractive forces of all upon all, resolve themselves into a harmonious movement about a common centre, just as a thousand different tones unite to form one grand and swelling accord. M. Maedler, of Dopart, after careful measurements, comparisons and calculations, with the use of the data furnished by previous investigators, arrived at the result that the long sought for point lies in the brilliant constellation of the Pleiades, and probably near by, or in the brightest star of this group, Alcyone. Hence, Maedler regards the Pleiades as the central group of the whole system of the fixed stars, even to its outer limits, marked by the Milky Way, and Alcyone, that star of all those composing the group which is favored by most of the probabilities, as being the central sun. From his attempts to determine the parallax of Alcyone, Maedler concluded that this star is removed from us thirty-one and one-half million times, the distance of the sun, a distance requiring 498 years for light to traverse; and that our sun, in its course about Alcyone, moves at the rate of eight geographical miles in a second, and requires eighteen and one-half millions of years to complete one revolution.

Notwithstanding the amazing distance to which our sun is removed from the true centre of the system to which it belongs, we still hold a position, as Schubert says, deep within, and proportionately near the centre of the vast circle, bounded by the rings of the Milky Way as walls of light.

Without this fixed relation of all the individual and component molecules of the universe, it would be impossible to conceive of the existence of matter in its present condition. Destroy the natural attraction of bodies, and the essential conditions for the existence of the universe in its present order will

be destroyed. The existence of the law of gravity appears to be independent of every form, property or affection of matter, whilst all the properties and affections of the various forms of matter, inorganic or organic, may be supposed to depend ultimately upon the existence of the fixed relation of the molecules of matter. If our sun with his planets were blotted out of existence, this fixed relation of the remaining molecules of matter would not be destroyed. If sun after sun, and system after system were blotted out of existence, it is reasonable to believe that this law would not be destroyed as long as two atoms of matter remained.

III. Universal Distribution of Matter, with its Properties or Forces, of Cohesion, Heat, Light and Chemical Affinity.

The atoms of matter are bound together by a force which acts only at insensible distances, called the force of Cohesion. It has been announced by some philosophers that the force of cohesion is nothing more than the force of gravity acting between the individual atoms of bodies at exceedingly small distances. Whether this hypothesis be true or false, it is evident that if matter be deprived of these two forces of cohesion and gravitation, its properties of form, color, porosity, compressibility, dilatability and elasticity would cease to exist, and the manifestations of its peculiar affections or motions, as heat, light, electricity, and magnetism, would be impossible. Without these properties of matter no organized plant or animal could exist in any portion of the universe, constructed upon the same plan with those of our globe.

The molecular attraction of matter chiefly affects the form of bodies by the immediate operation of their particles on each other. And the phenomena of the transmission of sound, of light, and of heat, of dilatability and compressibility, of porosity and divisibility, of molecular attraction and repulsion, have led to the adoption of the hypothesis, that matter, under its apparent volume, does not consist of a plenum, but that its molecules are widely separated in reference to their size, by void spaces, or by spaces occupied only by the so-called impon-

derable agents or agent of light, heat and electricity. According to this explanation, all bodies are merely a collection or aggregate of minute particles called Atoms, and are formed by the attractive and repulsive forces acting on them at immeasurably small distances, and the form of matter, whether solid, fluid or gaseous, will depend upon the relative intensity of these forces. According to the first hypothesis, framed to explain the nature of matter, originally propounded by the Greek philosopher, Leucippus, and now known as the Atomic Theory, all matter consists of extremely fine particles, differing in form and nature, which Leucippus supposed to be dispersed through space, and to which his follower, Epicurus, gave the name of atoms. To these atoms he attributed a rectilinear motion, in consequence of which such as were homogeneous united, whilst the lighter were dispersed through space. According to the dynamic hypothesis of Kant, all matter existed or was originated by two antagonistic and mutually counteracting principles, which this philosopher called attraction and repulsion, and all the predicates of which he referred to motion. Ampère and Poisson, and other modern philosophers, have adopted a hypothesis combining the features of both the preceding, in which the atoms are regarded as data, deriving their origin from the Deity as the First Cause, and their attractive and repulsive force as a necessary condition to their combination in bodies. The main features of this hypothesis are borrowed from Aristotle, inasmuch as he supposed the basis of all bodies to be the four elements known to the ancients, the particles of which endowed with certain powers constitute bodies.

According to Ampère, all bodies consist of equal particles, and these again of molecules, that up to a certain distance attract each other. Their distance from each other he supposed to be regulated by the intensity of the attractive and repulsive forces of their matter, partly from the repulsion arising from the undulations of an ether within them, and partly by the attraction which is directly as the mass, and inversely as the square of the distance. And, lastly, these molecules consist of atoms held together by their attractive and repulsive forces, the latter of which preponderates. To whatever body the

molecules belong they are invariably hard and polyhedrous in Mechanical force separates only the particles, the force generated by the undulations of the atoms may resolve the compound molecules into more simple ones, but chemical agents alone can still farther resolve them into atoms. According to Poisson, all ponderable bodies consist of extremely small molecules, combined by attraction with heat, electrical and magnetical matter. Very little heat exists in the interstices between the molecules, the greater quantity is, therefore, attached to them, for which reason the effects of the caloric seem to proceed immediately from them. The molecules attract each other, and attract heat, whilst this last principle is repulsive to itself, and both forces diminish so rapidly as the distance of the molecules increases, that they become quite inappreciable at any distance that we can observe. The molecules, however, are so small that the distance at which a diminution in the forces takes place, is always a multiple of its diameter, and, consequently, an incalculable number of such molecules is conflicting at the same time with each one of these forces. The two forces do not follow the same laws with regard to the decrease of distance; there is, however, a certain point at which a stable equilibrium obtains between them.† According to this assumption, the molecular forces are the effective causes which hold together the particles of bodies. Through them the atoms (molecules) approach to a certain distance, when they gain a fixed and unalterable position with reference to each other. The power with which the particles adhere in this stable condition, is called the force of Cohesion. It is measured by the resistance it offers to the mechanical separation of bodies. On the degree of this force the three states depend in which matter comes under our notice called its aggregate forms, and distinguished as solid, liquid and gaseous. These different states of matter result from certain definite relations under which the molecular attraction and repulsion establish their equilibrium; there are three cases, viz: two extremes and one mean. The first extreme is that in which attraction preponderates among the atoms; this produces the solid state. In the other, repul-

t Elements of Physics, by C. F. Peschel, vol. 1, p. iv.

sion preponderates, and the gaseous form is the consequence. The mean attains when the attraction is only slightly in excess, and then matter presents itself under the liquid form.

The Atomic Theory of Boscovich, has been expressed in the following postulates: 1st, Matter consists of indefinitely small, indirisible and inert atoms. 2d, These are endowed with attracting and repelling forces, which vary both in intensity and direction by a change of distance. 3d, The law of variation is the same in all atoms, and the action mutual. 4th, At all sensible distances the force is attraction, and known by the name of gravitation, 5th, Within the insensible distance in which physical contact is observable, there are several alternations of attraction and repulsion. 6th, The last force which is exerted between two atoms, as their distances diminish is an inseperable repulsion; no force, however great, can press two atoms into anatomical contact.

The four laws upon which modern chemistry is based, with the exception of the law of constant proportion, were wrought out by Dalton, and by him first fully made known to the world; and his celebrated Atomic Theory is an endeavor to explain these laws, by assuming a peculiar ultimate constitution of matter which absolutely necessitates their existence. These laws are based upon one deeper and more fundamental than themselves, which is assumed in their enunciation, viz: The same compound consists invariably of the same components. The exceptions to this law, which were at one time thought to exist in the case of certain minerals and native gems, have been explained and removed by Mitscherlich's discovery of Isomorphism.

The first of these, generally named the law of definite proportion, teaches that the elements which form a chemical compound, are always united in it in the same proportion by weight, and applies to all bodies, organic and inorganic, native and artificial. The law of definite, or more accurately, constant proportion, was known before Dalton's time, and had been distinctly announced by several chemists. The second law, called that of multiple proportions, expresses the truth, that when one body combines with another in several proportions, these

proportions must vary according to the terms of a *simple series* of multiples, since each atom of one element must unite with the other element in the ratio of 1, of 2, or of 3 atoms, or in some other ratio almost equally simple, inasmnch as the atom does not admit of subdivision.

The third law of combination, known as that of reciprocal proportion, expresses the fact that if two bodies combine in certain proportions with a third, they combine in the very same proportion with each other, and was originally discovered by the German chemist, Wenzel, who published his views in 1777.

The fourth and last law, known as that of compound proportion, discovered by Dalton, teaches that the combining proportion of a compound body is the sum of the combining proportions of its components.

These laws sum up the results of the universal experience of chemists, and contain nothing hypothetical.

Dalton, in his Atomic Theory, began by assuming that matter, although it may in essence be infinitely divisible, is in fact, only finitely divided, so that it consists of certain ultimate particles or molecules, possessed of a definite and unchangeable weight, shape and size. These particles he named in common with others, atoms, to signify that they are indivisible. The individuality attributed to them, however, was not affirmed to be absolute, so that they could not by possibility be reduced in dimensions and broken up into smaller particles, but was held to exist in relation only to the chemical and other disintegrating forces existing in nature, none of which were supposed able to divide them. According to this view, then, ponderable masses or volumes of the different elementary bodies, were supposed to consist of a countless number of inconceivably small undivided atoms. Thus far Dalton held a view of the atomic constitution of matter, in common with many who for centuries had defended their theories by all the arguments that physics and metaphysics could supply. Thus Newton held that: "All things considered, it seems probable that God in the beginning, formed matter in solid, massy, hard, impenetrable, movable particles, of such sizes, figures, and with such

other properties, and in such proportion to space, as most conduced to the end for which he formed them; and that these primitive particles, being solid, are incomparably harder than any porous bodies compounded of them; even so very hard as never to wear or break to pieces, no ordinary power being able to divide what God made one in the first creation."

Dalton advanced beyond Newton and all other previous speculators on atomics, by introducing the question of weight and advancing the bold conjecture that the ultimate atoms of the elementary bodies do not possess the same, but different weights; and that the difference between their weights is identical with that which subsists between the combining proportions of the elements themselves. According to this view, when bodies combine together their ultimate particles do not interpenetrate or become fused together so that the individuality or identity of any is lost, they only come into close proximity and lie side by side, or above and below each other, and when the compound they form is decomposed, they separate and reappear with all their original properties.

This atomic hypothesis explains the four laws of combining proportion; thus a law of constant proportion must obtain in the combination of atoms, for their relative weights are unalterable, and there is therefore but one lowest or smallest proportion in which they can combine; a law of multiple proportion is equally necessary, for an atom of one element is the smallest quantity that can be added to a compound containing an atom of it already, and the atoms being indivisible cannot be added in fractional proportions; the law of reciprocal proportion is an inevitable result of the constancy in weight of the atom; finally, the law of compound proportion exists in virtue of the contancy in weight and the indivisibility of the atom.

According to the Atomic Theory, as enlarged by the labors of Helmholtz, Jule, Thompson, Greve, Henry and other philosophers, every portion of the Universe, or at least that part which is accessible to us by means of the telescope, is occupied by atoms inconceivably minute, hard and unchangeable, separated from each other and mutually related by attraction and repulsion. This assemblage of atoms constitutes the matter of

the material universe, and the attractions and repulsions, the forces by which they are actuated, and to which is referable all the power or energy which produces the changes to which matter is subjected. These atoms, thus endowed, form a plenum throughout all space, constituting what is called the etherial medium, and in it, at wide intervals from each other, are isolated masses of grosser matter which constitute our world, the planets, the sun and stars. These also consist of atoms of another order, or of groups of atoms with spaces between them wide in comparison with the size of the atoms, and these spaces are pervaded by the minute atoms of the etherial medium, without sensible resistance, or such as is only rendered evident by the minute retardation of nebulous masses denominated comets. According to this theory, the various isolated bodies of the universe act upon each other by means of the force of gravitation, and also by tremors or vibrations in this medium, radiating in every direction from each body as a centre. All matter, therefore, is porus, whether in the liquid, gaseous or solid condition. The pores may be conceived to be of different orders, namely: pores between the atoms, between the molecules or assemblages of atoms, and between the still larger particles.

Gold itself is rendered brittle by being exposed to the fumes of sulphur, and solid iron is converted into steel by absorbing a large quantity of carbon, to which it owes that property denominated temper. We are obliged to assign to the etherial medium a similar constitution to that possessed by grosser matter, namely, that it consists of inert atoms, at great distances from each other relative to their own size, and each kept into position by attracting and repelling forces. Through this medium impulses, or minute agitations, are transmitted in celestial space from planet to planet, and from system to system, and these tremors, or waves, constitute light, heat and other emanations which we receive from the sun; or, in other words, the solar emanations, are not matter, but motion, communicated from atom to atom, beginning at the luminous body and diffused in widening spherical surfaces, enlarging in size and diminishing in intensity, to the fartherest portion of conceivable space. The atoms of the etherial medium are perfectly free to move in all directions, so that the earth and dense masses experience no retardation as yet measurable; though lighter bodies, as comets, apparently exhibit an effect of this kind for the same reason that a bunch of cotton is more retarded in falling through the air than a piece of lead.

The changes observed by astronomers in nebulous matter, in comets, and in certain fixed stars, which have suddenly blazed out as if in active conflagration and then faded away as if the chemical changes were definite and limited which led to the development of the light, justify the conclusion that the constitution and forces of matter are everywhere the same throughout the visible universe.

Light is the only means of communication which man possesses with the sun and planets and stars, and it is the only agent by which he can ascertain anything respecting their chemical constitution; and from whatever direct luminous source it is derived-whether from intense combustions upon this globe, or from the sun and fixed stars—it possesses the same properties and powers, and is solvable by analysis into luminous, thermic and actinic, or chemical rays. If the universe be devoid of all matter except immediately in and around the individual masses constituting the different systems and constellations, it would be difficult if not impossible to explain the phenomena of light by any other theory than that originally constructed by Newton, commonly known as the Emanation or Corpuscular theory. If, on the other hand, it can be shown that there is no absolute vacuum in the Universe, but that space is pervaded by a thin elastic medium, it would be more philosophical to refer the phenomena of light to the peculiar undulations, or motions, of this subtle and elastic fluid, according to the hypothesis originally founded by Descartes, Huygens and Euler, and adopted and enlarged by Young, Fresnel, Fraunhofer, Herschel, and other philosophers. Newton after regarding light as consisting of small material particles, emitted from shining substances, which could be re-combined into solid matter, so that "gross bodies and light were convertible into one another;" in a paper entitled "An Hypothesis

Explaining Properties of Light," December, 1675, introduced his opinions respecting Ether-opinions which he afterwards abandoned, and again permanently resumed. In the concluding paragraphs of the Principia, Newton refers the existence of light and other physical forces to the presence of an exceedingly tenuous form of matter which pervades all bodies and is expanded through all the heavens. "And now we might add something concerning a certain most subtle spirit which pervades and lies hid in all gross bodies; by the force and action of which spirit the particles of bodies mutually attract one another at near distances and cohere if contiguous; and electric bodies operate to greater distances, as well repelling as attracting the neighboring corpuscles; and light is emitted, refracted, reflected, inflected, and heats bodies; and all sensation is excited, and the members of animal bodies move at the command of the will, namely by the vibrations of the spirits, mutually propagated along the solid filaments of the mass, from the outward organs of sense to the brain, and from the brain into the muscles."

Newton, from certain calculations contained in his Principia (Prop. xxii, Book ii, and Prop. x, Theorem x, Book iii), was led to the conclusion that the density of the atmosphere of our earth is very accurately, or very nearly at least, as the compressing force, and at the height of 200 miles above the earth this air is more rare than at its superfices, in the ratio of 75,000,000,000,000 to 1, and that the celestial regions being perfectly void of air and exhalations, the comets and planets meet with no sensible resistance in their spheres, and will continue their motions for an immense tract of time. Newton affirmed that if a vacuum did not exist, the material particles, no matter how subtle they might be, which fill all space, must necessarily retard the motions of the heavenly bodies. His observations, however, upon the laws of motion, led him to the conclusion that they were absolutely uniform, and that the planets were not retarded in the slightest degree; hence he affirmed that a vacuum exists in the regions of space not occupied by the heavenly bodies and their immediate and defined atmospheres, and he was compelled to admit the doctrine of material ema-

nations from luminous bodies. This question, which could only be settled by observations upon the lightest comets, whose periods of revolution around the sun were well known and capable of frequent demonstration, has finally been solved, in the perturbations produced by the resisting medium upon the periodical comet of Encké, "a sort of unsubstantial thing, a mere wisp of vapor," which yet obeys the laws of impulse and gravity, and revolves about the sun. This inconceivably rare, resisting medium or æther, then, which offers a resistance barely observable, to what is little more than an ætherial nebula, it may readily be imagined has failed to produce any effect on the solid planets, capable of being detected in the entire period since the earliest astronomical observations. It appears that the effect of the resistance of the ætherial medium, from the first discovery of Encké's comet by Mechain and Messier, in 1786, up to the present time, has been to diminish the time of revolution by about two days, and the comet is about ten or eleven days in advance of the place which it would have reached if there had been no resistance. Whilst it is as yet impossible to assign the true density of this resisting medium, nevertheless, these facts, which show, in the opinion of some of the best mathematicians of Europe, that a very rare form of matter does really occupy the spaces in which the planets move; do furnish a material basis for the undulatory theory of light, and, also, for the proper comprehension of the doctrine of the corellation of the physical forces, when applied to the exterior universe. Oersted has beautifully observed: "There is no inactive void in the remote distances between the planets. The space is filled with ether, and is penetrated by the attractive forces by which the whole universe is held together. The ether itself is an ocean, whose waves form light, that great connecting link which conveys messages from globe to globe, and from system to system."

The alliance which Chemistry for ages sought with Astronomy, and which was chronicled in her nomenclature, was apparently lost, when the astrologist became the astronomer, and the alchemist the chemist; but the perfection and extension of both sciences have of late brought them again together in

friendly union, and chemistry, which for centuries had been explaining, always more and more successfully, the evolution of heat and light on this earth, has finally given information of no doubtful character, concerning their production at the sun and fixed stars, and throughout the universe. Chemical analysis has been applied directly to certain of the heavenly worlds, and there is now a chemistry of the stars as well as of the earth.

Aerolites, meteorites, or meteoric stones, which are now almost universally acknowledged to have been true stars (meteorplanets, asteroids, starlets, tiny planets), revolving around the sun in definite orbits, and which, when at certain periods they come within the sphere of the earth's attraction, are precipitated as meteoric stones upon its surface, have been submitted to chemical analysis;† and whilst the largest of them is but a "microscopic grain of the star-dust scattered over the sky." they are none the less of celestial origin, and their analysis belongs to celestial and not terrestrial chemistry. The numerous analysis which have been made of meteorites, both the older ones by Howard, Klaproth, and Vauquelin, and those of more recent date by Berzelius, Shepard, Gustan, Rose, and others, have demonstrated that, of the sixty-four elements entering into the composition of the crust of our globe, they contain about eighteen, namely: Aluminium, Calcium, Carbon, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Oxygen, Phosphorus, Potassium, Silicum, Sulphur, Titanium, Tin, and, perhaps, also in some cases, Antimony, Arsenic, Chlorine, Hydrogen and Lead. Many of the best marked aërolites are masses of nearly pure metal, chiefly iron, with a small proportion of nickel. Others contain Cobalt, Maganese, Chromium, and other metals, diffused through them in minute quantities, associated with a small percentage of Oxygen, Sulphur, Chlorine, etc.; whilst the stony meteorites consist chiefly of Silica and metallic Oxides. No new chemical element, or primary in-

<sup>†</sup> Cosmos, by Alexander Humboldt, trans. London, 1849, vol. 1. pp. 97, 1253
Popular Astronomy, by Francis Arago; Outlines of Astronomy, by Sir John F. W. Herschel, pp. 518, 522; Chladné Angales, du Bureau des Longitudines de Frances, 1825; Edin. burgh Review, January, 1848, p. 195; Religio-Chemici, by George Wilson, pp. 79, 103; Dictionary of Chemistry by Henry Watts, vol. iii, pp. 979, 982; Shephard's Sil. Am. Jour., 2d series, vol. ii, p. 277, vol. vi, 402; vol. xv, 363; Annales de Chemic, tom xxx; Ure's Dic. of Chemistry, 3d ed., pp. 619, 624.

gredient has been found in any of them, upon the most careful analysis, and hence the conclusion has been drawn by philosophers, that: analogy would lead us to conclude that the modifications of the primoidal matter forming our so-called elements, are as universal, or as liable to take place everywhere as are the laws of gravitation or centrifugal force; we must, therefore presum that the simple bodies composing our globe exist throughout the bounds of our universe. Meterolites agree in composition with the earth, in that in both there are many more metals than metalloids; but they differ in that the non-metallic elements, and especially oxygen, occur in much larger quantities in the latter. Meterolites also differ amongst themselves, and each difference represents a separate example of planetary chemistry.

The discovery of the decomposition of white lights, by Sir Isaac Newton, in 1675; the discovery of the dark lines in the solar spectrum by Dr. Wollaston, in 1802; the resolution of luminous rays into the three forces of light, heat and chemical affinity, by Herschel, Ritter, and Scheele, in the early part of this century; and the exact observation and mapping of the lines of the solar spectrum by Fraunhofer, in 1814, and the observations upon colored flames by Thomas Melville, in 1752, and of Brewster, in 1822; the investigation of the spectra of colored flames by Sir John Herschel, in 1822, and by Fox Talbot, in 1826, and by Professor William Allen Miller, in 1845; the experiments of Wheatstone, Masson, Augstrom, Von du Willigen and Pluche upon the spectra of the electric light or spark, and the still more important discoveries of Bunsen and Kirchhoff, have led to the discovery and perfection of Spectrum Analysis, and its application to chemistry.

Spectrum Analysis has not only placed a new power in the hands of the chemist which enables him to detect by the simplest and most expeditious process, the presence of chemical substances with a degree of accuracy and delicacy almost incredible, and thus enlarged his knowledge of the composition of terrestrial matter; but it has armed him with an instrument by which he is able to overstep the narrow bounds of this earth, and determine with as great a degree of certainty as

appertains to any conclusion in physical science, the chemical composition of the atmosphere of the sun, and far distant fixed stars. Professo Kirchhoff concludes with certainty, by spectrum analysis, that in the solar atmosphere, at a distance of about 91,000,000 of miles, substances such as Sodium, Calcium, Barium, Magnesium, Iron, Chromium, Nickel, Copper, Zinc, Strontium, Cadmium, Cobalt, Hydrogen, Manganese, Aluminum and Titanium, which enter into the constitution of this earth, are present in the state of luminous gases.

The following metals appear to be either altogether absent or present in very small quantity in the solar atmosphere, viz.: Gold, Silver, Mercury, Rubidium, Caesium, Potasium, Lead, Antimony, Arsenic, Lithium, Silicum, Glucinium, Cerium, Lanthanum, Didymium, Ruthenium, Iridium, Palladium, Platinum and Thalium.

From his careful and extended observations, Professor Kirchhoff† concludes that the most probable supposition which can be made respecting the sun's constitution is, that it consists of a solid or liquid nucleus heated to a temperature of the brightest whiteness, surrounded by an atmosphere of somewhat lower temperature. This supposition is in accordance with Laplace's celebrated nebular theory respecting the formation of our planetary system. If the matter now concentrated in the several heavenly bodies existed in former times as an extended and continuous mass of vapor, by the contraction of which sun, planets and moons have been formed, all these bodies must necessarily possess mainly the same constitution. Geology teaches that the earth once existed in a state of fus' a; and we are compelled to admit that the same state of thi 28 has occurred in the other members of our solar system. Lie amount of cooling which the various heavenly bodies have undergone, in accordance with the laws of radiant heat, diffe s greatly, owing mainly to the difference in their mass. Thus whilst the moon has become cooler than the earth, the temperature of the surface of the sun, has not yet sunk below a white neat. Our terestrial atmosphere, in which now so few elements are found, must have possessed when the earth was in a state of fusion, a

<sup>†</sup>Spectral Analysis, by Henry C. Roscoe. 1869, p. 206.

much more complicated composition, as it then contained all those substances which are volatile at a white heat. The solar atmosphere at this time possesses a similar constitution. Among the metalloids, Hydrogen is the only one indicated by spectrum analysis as existing in the sun; the other substances such as oxygen, nitrogen and carbon, which exist in such large quantities in the earth, it is thought can now be discovered in the sun by this process; still, as has been shown by Professor Angstrom, of Upsale, in spite of the almost complete want of coincidence between the solar lines of these and nitrogen, we have no right to pronounce definitely upon the absence of these two bodies in the sun.

Mr. Huggins and Dr. Miller have shown, by means of spectroscopic analysis, that the moon is devoid of any appreciable atmosphere; that Jupiter is surrounded by an absorptive atmosphere, containing vapors similar to those which float about the earth, and other gases, or vapors, which do not exist in the earth's atmosphere; that it is probable that aqueous vapor exists in the atmosphere of Saturn, and that the atmosphere of Mars contains matter similar to that occurring in our atmosphere.

From the observations made with the beautiful instrument of Mr. Huggins, the composition of the atmosphere and physical constitution of the fixed stars have been as accurately determined as in the case of the solar atmosphere. It has been established, chiefly by the labors of Mr. Huggins and Dr. Miller, of England, that the constitution of the star-light, although not identical with the light given off by the sun, is yet similar; and hence the conclusion that the physical constitution of the fixed stars is similar to that of the sun, that their light also emanates from intensely white-hot matter, and passes through an atmosphere of absorbent vapor — in fact, that the stars are suns of different systems. These observers have shown that in Aldebaran we have evidence of the presence of no less than nine elements, namely, Hydrogen, Sodium, Magnesium, Calcium, Iron, Bismuth, Tellurium, Antimony and Mercury. The element Tellurium, whose name implies a purely earthy origin, is found in this star, although it does not exist in the sun, and is very rare in the earth. There are only two stars,

Betelgeux and B. Pegasi, in which Hydrogen is wanting; all the other stars contain Hydrogen. In Betelgeux, Sodium, Magnesium, Calcium, Iron, Bismuth and Thallium; and in Sirius, Sodium, Magnesium, Hydrogen and Iron have been discovered. It appears, therefore, from these investigations that the fixed stars consist of a white-hot nucleus, giving off a continuous spectrum, surrounded by an incandescent atmosphere, in which exists the absorbent vapors of certain metals. These results have been viewed by philosophers as bearing on Laplace's nebular theory, because they show that the visible universe is mainly composed of the same elementary constituents, although certain stars differ from one another in their chemical constitution. These fixed stars, which vary in color, have each their own peculiar spectrum; yet they are all formed upon a plan similar to that of our sun.

In the spectra both of the sun and of the fixed stars there are, however, numerous lines which have not as vet been referred to their constituent materials. This arises, according to Dr. Miller, in a great measure from our imperfect acquaintance with the spectra of the elements at present known. It arises also, in part, from our ignorance of some of the elements which compose our earth itself. Within the last sixteen years not less than four elementary bodies, viz., Cæsium, Rubidium, Thallium and Iridium, have been discovered by the special character of their spectra. Another reason assigned by Dr. Miller is that many of these unknown lines are the results of combinations formed in the outer and less heated part of the sun's atmosphere, when ordinary chemical attraction again exerts itself. In the intense focus of the nucleus of the sun the heat is so fierce that all chemical combinations are destroyed, and the elements occur in a state of mixture with each other, as they do in the intense heat of the voltaic arc.

The spectroscope has even thrown light upon the composition and chemical changes of those stars, which from time to time blaze forth in the heavens with great brilliancy and then as speedily fade and dwindle away. Mr. Huggins and Dr. Miller have recorded the fact that in May 1866 a star suddenly blazed forth in the constellation of the Northern Crown. The star

exhibited three different spectra, two of them resembling the spectra of stars in general, produced by the nucleus and the gaseous bodies contained in the outer atmosphere; the third spectrum was that of a gaseous body in a state of incandescence or intense heat, and the principal bright lines showed that one of the luminous gases was Hydrogen, and that the gas was hotter than the body of the star itself. These facts, taken in connection with the suddenness of the outburst of light, and its very rapid decline in brightness from the second magnitude in twelve days, that is to say, from a bright star to one invisible without the aid of the telescope, suggests the startling probability that the star had become suddenly enveloped in the flame of Hydrogen, which was burning around the star and combining with some element. As the Hydrogen gradually became exhausted, the flames diminished in intensity and the brightness of the star declined in a corresponding proportion.

The nebulæ in like manner have been subjected to spectrum analysis, and there can be little doubt that the elementary gases, Hydrogen and Nitrogen, in a state of high ignition, are the chief components of these remarkable bodies, which Sir W. Herschel has suggested to be possibly portions of the original material out of which existing suns and stars have been formed. Mr. Huggins has more recently recorded the important observation that, the second comet of 1868 contains luminous carbon, or carbon compounds, and previous observations have shown that the light of these bodies is similar to that emitted by the nebulæ.

In conclusion, the spectra of fixed stars contain, like the solar lights, invisible chemically active rays, and the spectrum of Sirius has actually been photographed by Mr. Huggins. The intensity of the light of this star, is, according to the best admeasurements, the 6,000,000,000 th part of that of the sun, and although probably not less in size than sixty of our suns, it is estimated to be at the enormous distance of more than 130,000,000,000,000 miles, and yet even that immense distance does not prevent the registration upon the surface of our earth of

the chemical intensity of the rays which left Sirius twenty-one years ago.

The discoveries of the spectroscope have confirmed those of the telescope, and established a uniformity of chemical composition, as well as of physical constitution of matter throughout the visible universe. "Aggregated into masses, which though widely differing from one another in composition, like the various veins of ore which occur in mines upon the surface of our globe, yet all are evidently of common origin, all obey the same laws, and all possess a chemical nature similar in kind."

#### On Some Diseases of the Large Blood Vessels.

Clinical Lectures Delivered to the Medical Class of the University of Louisiana, Nov. —, 1877,

BY S. M. BEMISS, M. D.,

Prof. Theory and Practice of Medicine and Clinical Medicine.

To-day we begin our regular course—a work which is to occupy us during and beyond the limits of the coming winter. It is to be desired that you derive all possible advantage and good from that which may be said or done by your teachers. To this end I urga upon you close and fixed attention and studious observation. The faculty of attention is susceptible of wonderful cultivation. The great Sir Isaac Newton is reported to have said that whatever he had accomplished, or had attained, was not due to genius, but to the fact that he had successfully cultivated habits of attention and observation, and devotion to study. It is the old fable over again, of the race between the hare and the tortoise,—genius is the former; plodding, unwearying toil the winning tortoise.

It is a matter of some regret that the clinical lectures which I shall deliver before you, will not be arranged after that methodical system which you find in your text books, and which is undoubtedly of much advantage to students, since one lecture



may be made a key of instruction to that which is to follow. But I consider it more gain to you to utilize the material in the accidental manner in which this great hospital places it at our disposal, and to ask you to spare no pains to improve each separate lesson in order that it shall inure to the greatest attainable profit.

To-day I have opportunities to illustrate a subject of great importance, "diseases of the heart and large blood vessels," and I will therefore ask your attention while I present you and explain to you some well marked examples of lesions of these structures.

But before entering upon the discussion of the subject announced, let me call your attention to the affection under which this little boy is suffering, I promised his mother that I would not detain him, and this is my reason for introducing him at this moment. His disease belongs to the class of her petic eruptive affections, and is termed Herpes Zoster, or "Shingles." The eruption, as you observe, now consists of groups of vesicles; one situate near the spinal column, a second in the axillary line, a third near the mesial line in front, yet all of the groups on the same side of the chest. These vesicles will, after five or six days, become opaque and purulent, and ultimately dry into scabs, which upon falling leave lasting sears. The advent of this affection is attended by severe neuralgic pains, which often persist throughout its course, and, indeed, in some rare cases remain after recovery as a permanent and distressing sequel.

The pathology of this affection is now generally agreed to have its origin in an irritation or inflammation of the spinal nerves, which is expressed by a skin inflammation at their peripheral expansions. Hence the arrangement of the vesicles is in groups corresponding with the distribution of the trunk involved; hence, too, it is an unilateral disease. There is a popular superstition which holds that when both sides are attacked death is inevitable. It occasionally occurs that the eruption is bilateral and is then just as harmless to life as when unilateral.

Treatment is entirely unnecessary unless great sensitiveness

or pain demands it. Then it should be restricted to soothing applications to the surface, such as powdered starch, flour, or oxide zinc, or soft rags wrung from warm water which has been dashed with laudanum, or of hypodermic injections of morphia.

Let us now take up the subject announced for the lecture.

Diagnosis of cardiac disease is to be based upon the evidence afforded of impairment of the heart's function as the motor of circulation, or upon evidence obtained by the ear of some hindrance or obstruction either in its own movements, or to the passage of blood through its chambers, or, more frequently, by the co-existence of both. Let us first endeavor to understand and classify the last mentioned factors of diagnosis of heart disease. These abnormal heart sounds are known as "cardiac murmurs." They are classed as functional, or organic, accordingly as they are due to causes which involve leisons of structure, or causes which are unattended with structural changes.

It is probably better now, at the commencement of your clinical course, to recapitulate in your presence the various causes which are capable of giving rise to abnormal sounds accompanying the transit of blood through the vascular tree. These are as follows: 1st, Alteration in the quantity of blood to reduce it. An insufficiently filled blood vessel gives a departure from normal sounds. 2d, Altered quality of blood, as the hydræmic states of Bright's disease. 3d, Alterations in the power of the heart as a force pump. Either a reduction or increase of cardiac force will produce abnormity of sounds. 4th, Roughening the inner surface of a blood vessel so as to impede the flow of the blood, will produce a morbid sound. Simply im peding the flow of blood by compressing the calibre of a blood vessel, will produce a murmur, as any one of you may prove by placing the funnel of a stethoscope where it will press upon the carotid. 5th, Roughening the external surface of the heart, or the inner surface of its investing sac, will give rise to a morbid sound, or murmur.

To-day, we will study some cases of organic disease of the heart, and, consequently, direct your attention to those mur-

murs which arise from causes included in the fourth and fifth heads of the previous classification.

These murmurs are divided into "endocardiac," and "exocardiac," accordingly as they originate from changes within, or external to the heart. The differential diagnosis is not difficult. Exocardial murmurs are rude, nearer to the ear, are heard indifferently, with either the heart's diastole, or systole, or with both; their area of distribution differs from endocardial sounds.

In order to classify endocardial murmurs, in accordance with their actual locality, and thus derive from this point some information of the mischief they do, or threaten, you must keep in mind the normal physiology of the heart's movements, and of the blood currents which these movements control. When I tell you that a murmur is connected with one or the other of the normal heart sounds, you should be able to bring to your view, the instant picture of the heart at the time the particularized sound is produced. It is, however, quite an important point of clinical study to learn the rules and mode of practice by which we determine with which sound a murmur should be classed. These will be taught in relation with each patient presented.

# CASE I.—AORTIC OBSTRUCTION AND MITRAL REGURGITATION.

This patient, a hard laboring man, first came under my observation twelve months ago. At that time he entered Ward 19 to be treated for dropsy. Now, you observe considerable edema of the feet; then the lower extremities were very anasorcous, while the abdominal cavity was also distended by dropsical effusion. Upon examining the heart for morbid sounds we find a murmur, heard loudest at the right edge of the sternum in the second intercostal space. The murmur is systolic in its rhythm, that is, it is synchronous with the first or long sound of the heart. At the moment of its production the ventricles have closed and the current of blood propelled through the aorta meets a hindrance, which gives the abnormal sound. The hindrance is located on the proximal side,

perhaps surface, of the aortic semilunar valves. It does not, however, prevent these valves from closing, as the heart's second sound, or sharp click given by the closure of these valves, is well enough preserved to be audible. Now to prove the rhythm of this murmur, place your fingers upon the wall of the left chest where the apex impulse is most clearly felt, and determine in this manner that they both occur at the same instant. The normal point of apex influence is determined clinically by the following rule: Project a line from the left nipple two inches downwards and one inch towards the sternum. A very few repetitions of this exact method will enable you to locate the point of normal apex impulse by the eye alone. In this patient's case you perceive that when I indicate the actual point of apex impulse by placing my finger over it, that it is somewhat lower and more to the left than is normal.

In the future I shall show you that some other causes may occasion this dislocation of apex impulse, but here it is proper to remember that it is due to enlargement of the heart. In cases where you desire to ascertain synchronism of murmurs with apex beat, and there is any obscurity regarding the point of impulse, you must remember that the impulse of the carotid is so nearly synchronous with that of the apex, that it is practically quite the same, if your finger is placed upon the carotid while your stethoscope is over the murmur. The murmur in this patient's case is rude in quality, and is propagated quite extensively along the large branches of the aorta. It is what some teachers denominate an "onward murmur," but the law is that all murmurs shall follow blood currents, and if some are propagated in a direction reverse to normal currents, it is because the currents themselves suffer some reversal of direction. The student who made up this case for my lecture thinks the murmur is louder in the right subclavian and right carotid than upon the left. I cannot explain why this should occur, since physiology teaches that blood currents in the left carotid and subclavian are more direct than upon the right side. They explain in this manner why the generality of human beings are right-handed, the left brain being better supplied with blood than the right.

But in this patient's case there is another murmur, also systolic as it respects its rhythm, but located in a different area from the one described. This murmur is heard loudest at the point of apex impulse, and is less rude in quality than that which is heard at the base. Proceed now carefully to locate this murmur. The mitral valve is situate under the third intercostal space, one inch from the left edge of the sternum, but its sounds are heard best where the heart in its movements comes in nearest contact with the chest, that is, at the point and time of apex impulse. What should be the position and office of the mitral valve at the instant of systole? Its edges should be so adjusted to each other, that no blood should find its way through, and consequently no sound but the normal one should be produced. If a murmur exists, therefore, in the area where the normal systolic sounds are heard, and agreeing in time with them, it shows a deficiency of the mitral valve, which permits a portion of the blood to escape the pressure of the ventricle in the backward direction of the auricle. This is mitral regurgitation.

I interpret the pathology and order of clinical events in this patient to be as follows: First, there occurred aortic obstructive disease, from inflammation, most likely rheumatic, and fibrinous concretions. This obstruction, by damming the blood back into the left ventricle, occasioned so much dilatation that coaptation of the mitral valves was interfered with, consequently the regurgitation because of imperfect closure. Then came on nature's efforts to surmount the trouble by fortifying the cardiac muscle so that increased power should compensate for obstruction. There is now in the patient's case mixed dilatation and hypertrophy.

An enumeration and description of these lesions are quite sufficient to account for the dropsy and any other impediments to functions which are present.

The prognosis is here unfavorable for cure, but with proper care life may be indefinitely prolonged. Unfortunately the miserable subjects of heart lesions which we see in this hospital are generally men who have families depending upon them for sustenance, consequently, they sacrifice themselves in efforts to discharge paternal duties. There is, however, no denying

the fact that the amount of impediment of function which this case exhibits should render a prognosis doubtful, even as it respects tolerance of his disease for any considerable period of time.

Treatment is symptomatic and conservative. Dropsical effusions must be gotten rid of when large. This may be accomplished by hydragogues and cardiac tonics. I do not often find it necessary to use elaterium; compound jalap powder, or even bitartrate potash dissolved in infusion juniper berries, generally suffices. I often use the old pill of one grain each of calomel, squill and digitalis, repeated every three or four hours. Do not carry your spoliative treatment too far. Remember, gentlemen, that any cardiac incompetency is felt to such a degree in capillary circulation that crippled nutrition is the rule. Iron, cod liver oil, strychnine, and more especially corroborants to digestive processes, together with cardiac tonics frequently bring about results not attainable by purgatives or diuretics.

Among heart tonics digitalis has the front rank. A prescription which for some years has been a favorite one is tinct, digitalis 3vi., syrup morphine 3iss, tinct verat, vir. gtt., xxx. Of this give one teaspoonful every third hour. The patient should be kept physically and mentally at rest, and nutritious diet systematically afforded him.

#### CASE II.—RHEUMATIC CARDITIS.

Louis G., 17 years of age, was admitted to ward 18, ten days ago, complaining of severe pain in the region of the heart. Notwithstanding his youth, this boy gave the history of sexual excesses sufficient to put a satyr to shame, and also of unusual indulgence in drink. When first admitted, his heart was acting in that peculiar and excited manner which betokened inflammation. A systolic murmur was heard over the uncovered triangle of the heart. Still, as there was no history of a prior attack of rheumatism, or even of the diathesis, I was disposed to diagnose the case as one of over-strain of the heart and to refer the difficulty to the bad habits of which he accused himself. A short time sufficed to show me my error, for a sharp elevation of temperature came on and persisted for a number of days,

with rheumatic painfulness in the extremities, especially around the joints. While we all admit that the heart belongs to the range of structures liable to rheumatism, it is not often the primary point of impingement of a first attack. This, however, must be put down as an unquestionable case of such an occurrence. The treatment of this patient has been by salicylic acid and opium. The prescription for the former was salicylic acid 3ji., bicarb. soda Dij., glycerine 3i., peppermint water 3iij., m ft. sol. s. table spoonful every two hours. For the latter pul. opium gr. vi., extr. hyoscyamus, gr. vi. Make six pillsgive one every fourth or sixth hour according to effect. We can certainly say of salicylic acid in rheumatism, that it lowers temperature. Beyond this, which is surely no little matter, I have not observed a positive and permanent curative influence. Much more can be said in favor of opium, which does exert an antiphlogistic and curative effect—particularly when cardiac structures are involved in the rheumatic process.

The excited, short, nervous (or, as I sometimes say to students, "hysterical") action of the heart in myocarditis is now gone from this case, and the murmur is also slowly lessening in intensity. The case is, therefore, recovering, not only from isflammation, but the fibrinous obstruction which caused the murmur is also being removed by the usual process of softening and disappearance in the circulation. It is a favorable event when this process is slowly effected, since the sudden washing away of a fibrinous concretion may be followed by plugging of a small artery, more frequently in the brain, thereby causing apoplexy and paralysis often fatal in character. It is, therefore, a good sign with this boy, that the gradual extinction of the heart murmur should indicate a gradual and innocuous removal of the fibrinous mass.

[ To be continued.]

## Is the Hypodermic Injection of Piles Dangerous?

BY EDMUND ANDREWS, M. D.,

Professor of Surgery in Chicago Medical College.

About two and one-half years ago, I discovered and pub-

lished to the profession the secret method of the itinerant "pile doctors."

The plan of these itinerants, which was sold as a secret, and at a high price, from one quack to another, is substantially as follows: A hypodermic syringe, with a very fine sharp point, is charged with a strong solution of carbolic acid.

Generally, three parts of crystalized acid to one of any bland oil, are employed; but they sometimes combine them in equal parts, and for the oil occasionally substitute glycerine.

The method of the operation is to insinuate the point of the syringe into one of the piles, and throw in a few drops only of the solution.

This causes the hæmorrhoid to turn white and gradually to wither away. Another one is then attacked, and thus by degrees a complete cure is effected without causing enough irritation at any one time to take the patient away from business.

The operation is sometimes painless, but in other cases decidedly otherwise.

Attention was called to the seeming danger, that by this method the carbolized oil might be thrown directly into the dilated bæmorrhoidal veins.

The injection of coagulants into venous enlargements of other parts of the body, has in a few cases, caused sudden death by embolism, a portion of the clots being carried to the heart, and thence passing into and blocking the pulmonary artery.

It was suggested, therefore, that the injection of hæmorrhoidal veins might involve the same risk.

The three groups of hæmorrhoidal veins inter-communicate, but the main outlet of the lower and middle groups is to the internal iliac, and thence to the heart, while that of the upper is to the portal vein.

It is conceivable that dislodged clots or globules of the iujection might be swept by the current of the blood to the heart, or, possibly, might pass through the upper plexus into the portal vein, and be lodged in the liver.

I learn that a number of the itinerants have taken warning from my suggestion of danger, and employ a sort of clamp forceps to compress the base of the pile for a few minutes at the time of the operation, thus hoping to prevent the passage of clots or globules along the veins.

This method has now been in use over three years, and has been applied to thousands of persons.

If there be any actual danger in it, such as is suggested by anatomy and by the danger of similar injections in other regions, by this time the results should be manifest.

Experience only can settle such matters.

If, on the other hand, the method is safe, it ought at once to be adopted by the regular profession as the best method of dealing with this distressing disease.

To settle this question of danger, I take the liberty through the columns of this Journal, of asking every physician in the United States, who has had opportunity to know the results of this treatment, to write me immediately, giving information on the following points:

- 1. How extensively has the plan been tried in your region?
- 2. How far is the plan painless or otherwise?
- 3. Have any sudden deaths or other alarming symptoms been known to follow its application, and if so, how soon, and what were the symptoms?
- 4. Have any cases been followed by dangerous disease of the liver?

I propose to collate all the information thus gathered and communicate the results in a future article through the pages of this Journal.

## Proceedings of the Board of Experts

Authorized by Congress to Investigate the Yellow Fever Epidemic of 1878.

MEETING HELD IN MEMPHIS, TENN., DECEMBER 26TH, 27TH, 28TH, 1878.

#### LIST OF EXPERTS

APPOINTED BY THE JOINT COMMITTEES OF THE SENATE AND HOUSE OF REPRESENTATIVES ON EPIDEMIC DISEASES, DECEMBER 18th, 1878.

DR. J. M. WOODWORTH, Washington, D. C.,

DR. S. M. BEMISS, New Orleans, La., DR. JEROME COCHRAN, Mobile, Ala.,

DR. WM. SELDEN, Norfolk. Va., [unable to serve in the field]

DR. SAM'L A. GREEN, Boston, Mass.,

DR. W. H. RANDLE, Philadelphia, Penn., DR. JACOB S. MOSHER, Albany, N. Y.,

DR. M. S. CRAFT, Jackson, Miss.,

Dr. W. H. MUSSEY, Cincinnati, Ohio, [declined]

DR. R. W. MITCHELL, Memphis, Tenn., DR. L. A. FALLIGANT, Savannah, Georgia,

DR. STANFORD E. CHAILLE, New Orleans, La.,

MR. THOS. S. HARDEE, Sanitary Engineer, New Orleans, La. True copy:

JAMES C. SAUNDERS,

Clerk House Committee.

Dr. R. M. SWEARINGEN, Austin, Texas. [Appointed an Expert, Dec. 23d, 1878.]

The following letter was addressed to each one of the Experts:\*

DEAR SIR:

I am authorized by the Committees of the Senate and House of Representatives on Epidemic Diseases to advise you that you have been elected a member of the Yellow Fever Commission of Experts, with compensation at the rate of "ten dollars per day and actual expenses while on duty."

Your are respectfully requested to attend a meeeting of the Commission to be held in the city of Memphis, Tennessee, on

Thursday morning the 26th instant.

Very respectfully,

JOHN M. WOODWORTH.

WASHINGTON CITY, Dec. 19th, 1878.

The first meeting of the Congressional "Board of Experts on Yellow Fever and Cholera," organized at 3, P. M., at the Peabody Hotel, Memphis, Tennessee, December 26th, 1878. Present:

- 1. Dr. Bemiss, New Orleans, La.
- 2. Dr. Chaillé, New Orleans, La.
- Dr. Cochran, Mobile, Ala.
   Dr. Craft, Jackson, Miss.
- 5. Dr. Falligant, Savannah, Ga.
- 6. Dr. Green, Boston, Mass.
- 7. Mr. Hardee, Engineer, New Orleans.
- Dr. Mitchell, Memphis, Tenn.
   Dr. Mosher, Albany, N. Y.
- 10. Dr. Randle, Philadelphia, Pa.
- 11. Dr. Swearingen, Austin, Texas.
- 12. Dr. Woodworth, Washington, D. C.
- Dr. Woodworth, on taking the chair, read the following two official documents, viz:

<sup>\*</sup> Notification by telegraph was also addressed to the Experts on the day of their appointment.

[No. 1.]

"House of Representatives, Washington, D. C.

In joint session of the Committee of the Senate and House of Representatives, on Epidemic Diseases, held in the room of the House Committee on Public Buildings and Grounds, December 18th, 1878,

On motion of Hon. John Goode, Dr. J. M. Woodworth, Surgeon General United States Marine Hospital Service, was made ex-officio President of the Board of Experts, selected by the

committee.

A true copy.

JAMES C. SAUNDERS, Clerk House Committee."

[No. 2.]

" House of Representatives, Washington, D. C.

In joint session of the Committee of the Senate and House of Representatives, on Epidemic Diseases, held in the room of the House Committee on Public Buildings and Grounds, December 18th, 1878, Hon. Stanley Matthews offered the following resolution, which was adopted by the committee:

"That the compensation of experts be \$10 per day, and ac-

tual expenses while on duty.

A true copy.

James C. Saunders, Clerk House Committee."

Dr. Chaillé was elected Secretary of the "Board of Experts." On motion of Dr. Bemiss, it was

[No. 3,]

"Resolved, That a committee of three be appointed by the President, to devise a plan and mode of work, for the investigation of the yellow tever epidemic of 1878, to report at 7½, P. M."

And it was further resolved that the President of the Board be added to this committee.

Board adjourned at  $3\frac{1}{2}$ , P. M., to meet at  $7\frac{1}{2}$ , P. M.

The Board met pursuant to adjournment, at 7½, P. M., all of

the twelve members being present.

The President announced the appointment of Drs. Cochran, Mosher, and Craft on the Committee required by a previous resolution. See [No. 3].

The following communication was then read:

[No. 4.]

MEMPHIS, TENN., December 26, 1878.

Dr. John M. Woodworth, Surgeon General, having by resolution of the joint committee of the Senate and House of Representatives (appointed to investigate the causes and method of preventing Yellow Fever and Cholera) been constituted Presi-

dent ex-officio of the Board of Experts provided for by resolution of Congress, he will proceed to organize the same and direct them to investigate the following points of inquiry, viz:

(a.)

1st. The origin, cause, and distinctive features of Yellow Fever and Cholera; whether or not they are indigenous to any part of the United States; if not, how they are brought to this country, and the localities from which they come, and if found to be indigenous and also imported, in what proportion and to what extent has their presence in the United States been owing to importation.

[b.]

2dly. The season of the year and atmospheric conditions, when and in which they may be propagated.

[c.]

3dly. The means to be adopted by which their introduction into this country from other localities may be prevented.

[d.]

4thly. The method of preventing its propagation and spread, when once introduced into any part of the United States.

[e.]

5thly. The number of deaths that have occurred in the United States during the present year; the expenditure and the injury to business resulting therefrom.

The foregoing is the order of the Committees in joint session, and the experts will confine themselves to it as nearly as possible.

1SHAM G. HARRIS,

Chairman Senate Committee.
STANLEY MATTHEWS,
Of Senate Sub-Committee.
CASEY YOUNG.
Chairman House Committee.

The following was then adopted:

[No. 5.]

Resolved, That the instructions of the Joint Committees of the Senate and the House of Representatives to the Board of Experts be placed on the minutes of the Board, and be properly acknowledged.

The following report from the Committee [See No. 3], embracing memorandum [No. 6] and resolutions [No. 7 and No. 8], was then submitted to the Board of Experts:

Your committee appointed to suggest a plan of operation for the Board of Experts on Yellow Fever, met and organized by electing Dr. Woodworth, Chairman—and Dr. M. S. Craft, Secretary.

The following memorandum in relation to the method of investigation adopted by the late Yellow Fever Commission

together with suggestions for additional inquiries, was laid before the above mentioned Committee of Experts by Dr. Woodworth.

# [No. 6.] MEMORANDUM.

"The investigation of the Yellow Fever epidemic by the Commission under the direction of the Surgeon General of the Marine Hospital Service, was undertaken in response to a great public wish that the inquiry and study should be begun while the epidemic was yet in progress, and before the evidence specially valuable should become obliterated or obscured by time. Prof. Samuel M. Bemiss, M. D., of New Orleans, Jerome Cochran, M. D., of Mobile, and Prof. E. Lloyd Howard, M. D., of Baltimore, were appointed as Experts, and they commenced the investigation at New Orleans, October 1st. Subsequently there were added to the Commission Col. Thomas S. Hardee, of New Orleans, as Sanitary Engineer, Prof. Joseph G. Richardson, of Philadelphia, and Assistant Surgeon Robert White, of the Marine Hospital Service, as pathologists and microscopists.

Until quite recently four clerks were employed to compile

statistics, etc.

The work has been pushed forward as rapidly as possible to the present time with the view of collecting, for the immediate use of Congress such facts as may have a bearing upon legislation.

To this end the investigation has been directed chiefly to the causes of the commencement and spread of the disease, the ultimate object being to establish truths upon which the theory and practice of prevention of future epidemics may safely rest. The manner of proceeding has been to secure the cooperation of the practitioners of medicine and of public officials in each place visited by the Commission, and this cooperation has been everywhere willingly accorded. In Memphis alone, the City has expended about one thousand dollars in aiding the Commission's work.

Thirty-four of the infected cities and towns have already been visited, and all important conditions and circumstances bearing upon the epidemic, carefully studied, and the facts recorded.

Inquiry has been made into the circumstances attending the appearance of the first cases of Yellow Fever in each place, and the connection, if any, between the first cases and those subsequently developed.

This line of inquiry has been pursued with reference to each case of fever which occurred up to the time when the disease became epidemic, or so prevalent in the place as to be no longer instructive. These inquiries have included the following questions among others:

1st. Did the first cases originate locally, or were they im-

ported from other intected points ?

2ndly. How was the contagious principle conveyed to the different points where the disease prevailed?

3rdly. What influence did persons, vessels, and railroad cars, baggage, clothing, or other matters have, in conveying the

Yellow Fever poison, or in communicating the disease?

4thly. What quarantine measures were adopted by sea, river or land, in respect to persons, baggage, cargoes, etc.; when established, how enforced, violations, if any, and results?

5thly. What measures of disinfection were employed, when

applied, how long continued, and the results?

6thly. What local influences affected the severity or duration of the disease? (Under this head have been studied and noted the sanitary conditions and topography of each place visited, the natural and artificial drainage, disposal of sewage, conditions of privy vaults, and source and character of water supply.)

7thly. What measures of individual prophylaxis were tried,

and with what result?

8thly. What modifications of the usual summer and autumnal diseases were observed during the epidemic of Yellow Fever? 9thly. Were any unusual forms of disease observed among domestic animals, etc., preceding and during the epidemic?

Maps have been prepared showing the location of each case of Yellow Fever which occurred, with distinctive marks for recoveries and deaths.

For New Orleans, five maps are being prepared, each one to exhibit an epoch of the epidemic.

No. 1. The outbreak, showing the cases which occurred in July.

No. 2. The July and August cases.

No. 3. The July, August and September cases.

No. 4. The July, August, September and October cases.

No. 5. The entire epidemic.

The study of the comparative history of the epidemic of 1878, with all other epidemics in the United States, has been begun, and tables are being prepared which will exhibit at once the leading features of all epidemics in this country.

These tables are intended to show the date of the first imported, or refugee cases, and of deaths. Date of first case and of first death among inhabitants; the date of occurrence of the maximum number of cases in one day, and said maximum number; date of last case, total cases, total deaths, total population, and number of persons who fled.

It is desirable that the part of the work described above should be completed for every city and town visited by the fever, so that the reports may be available for the Public

Health Committee of Congress.

Some of the additional lines of inquiry which it seems de-

sirable should be pursued, are as follows:

1st. A careful study should be made of the meteorological phenomena as far back as trustworthy data are available, and the relations between different atmospheric conditions and the

prevalence or absence of disease carefully analyzed.

2ndly. The geological conditions, character of soil and amount of water contained in it, at different seasons, the forms of vegetable growth, grasses, foliage and fruit; the cultivation of certain crops, and the existence of decaying vegetable matter in any form. All of these should be carefully studied with the view of ascertaining any influence which they may exert in producing or increasing epidemic diseases.

3rdly. Microscopical examinations of the blood of Yellow Fever patients have been made at the bedside. The viscera of Yellow Fever victims have also been subjected to microscopical examination, and specimens preserved for future observation. Microscopical and chemical examinations should be continued and directed to all available secretions and excretions, of men and animals during the prevalence and absence of epidemic disease, in order that a standard of comparison may be established for similar observations to be made when epidemic disease is prevailing. Chemical analysis of the air, water and soil, and microscopical examinations of the air, and of the water used for drinking purposes should be made at different seasons of the year.

4thly. The general effects of Yellow Fever upon the health of the people, following the epidemic, should be ascertained.

5thly, The expenditure of money and the injury to business

resulting from the epidemic.

6thly. It is considered very important that experts should visit the West Indies and Mexico, to inquire into the causes which keep alive and propagate the Yellow Fever poison in those countries, especially in Havana, from which place it is usually imported into the United States.\*

In reference to this memorandum, Dr. Cochran submitted from the Committee the following resolution which was

adopted by the Board.

[No. 7.]

Resolved, That in order to carry out the instructions which

\* The President stated to the Board that the plan proposed for complet-

ing the work contemplates two quarto volumes.

Volume I, to contain the history of the Epidemic, direct and comparative; the nature of the poison which produces yellow fever. Its objective study,—microscopical, experience of the senses (smell), etc.; its subjective study, modes of reproduc ion and development, duration of its activity, duration of vitality under all circumstances or conditions which are known to affect it; the prevention of epidemics by quarantine, by altering the conditions favorable to its development, or by giving popular advice in regard to medicines or hygiene which may be supposed to render people less liable to attack.

Volume II, to embrace the nature of yellow fever as a disease; the effects of the poison upon man (the morbid processes of the disease), incubation, connection between symptoms and morbid processes, and treatment.

The chapter on meteorological phenomena, would necessarily be embraced in the second volume, if the first volume is completed for early publication, as a satisfactory study of the data cannot be completed under six months or one year:

have been prescribed by the "Joint Committees of the Senate and House of Representatives," for the government of the Board of Experts, in the investigation of the origin, cause, and distinctive features of Yellow Fever, we recommend that the plan of investigation heretofore pursued by the Yellow Fever Commission, which has been acting during the last three months, under the orders of the Surgeon General of the Marine Hospital Service, as reported in the memorandum submitted by said Surgeon General, together with the additional inquiries suggested in said memorandum, be adopted as a basis for the further investigation to be conducted by the Board of Experts.

Dr. Cochran also submitted from the committee the following

resolution, which was adopted:

#### [No. 8.]

Resolved, That in order to obtain the materials for an adequate history of the recent epidemic of Yellow Fever, we recommend that the following places be visited by members of the Board of Experts: Milliken's Bend, Delta, Delhi, Helena, Lafourche region, Teche country, Lower Coast, Covington, Mandeville, Pearlington, Bay St. Louis, Pass Christian, Biloxi, Ocean Springs, Cat Island, Mississippi City, Morgan City, Pilot Town, Dry Grove, Bolton, and Greenville, and that the following places already visited by the recent Yellow Fever Commission, during the progress of the epidemic, be re-visited by members of the Board of Experts, so as to provide the additional data needed for completing the record of the epidemic in said places—Canton, Vicksburg, Donaldsonville, Baton Rouge, Jackson, Placquemine, Grenada, New Orleans, Memphis and Mobile.

The following resolutions were offered by Dr. Craft, and

adopted.

1879]

## [No. 9.]

Resolved, That Col. Hardee, as the Sanitary Engineer of the Board of Experts, be assigned to the following special duties, viz:

To make a thorough examination of the principal towns which have been infected with Yellow Fever, so as to furnish by report a full description of the elevation, character of soil, climate, and other local surroun lings affecting the general health of each place; that suitable maps be prepared by him delineating, as far as possible, not only the topographical features above described, but showing also the location of fever cases, with a view to preserving an historical record of the origin and spread of the epidemic at each one of the said places; that charts of mortuary statistics in profile be also prepared, and that the whole of said drawings be compiled with reference to their use for future publication as a part of the report of this Board.

## [No. 10.]

Resolved, also, That the examinations be extended to such

places as Natchez and other points which escaped the epidemic by a strict quarantine, or otherwise; and that in these sanitary investigations Col. Hardee be assisted by such medical experts as may be selected to accompany or co-operate with him for that purpose.

On motion of Dr. Cochran, it was-

### [No. 11.]

Resolved, That in order to complete the investigations proposed, as speedily as possible, we recommend that the members of the Board of Experts be divided into Committees, consisting, say of two members for each Committee, and that the several places to be visited, be divided amongst these according to a schedule to be prepared after due consultation.

The following was also adopted:

### [No. 12.]

Resolved, That the Joint Committees of the Senate and House of Representatives, be informed by the President of the Board of Experts and Dr. Bemiss, that the Board has effected an organization in accordance with their instructions; and that in order to carry out the same, the Board of Experts have adopted the foregoing plan of operations, which is respectfully submitted.

On motion the Board adjourned subject to a call of the President.

Meeting at 11, A. M., Friday, December 27th, 1878, all of the

twelve members of the Board being present.

Dr. Woodworth stated that officers of the United States Marine Hospital Service, have investigated the cases of yellow fever which occurred at Cairo, Hickman, Louisville, Gallipolis, St. Louis and Key West, and that the reports of the investigations will be available for the use of the Board of Experts.

By request of the President, Dr. Bemiss reported in reference to the conference had by Dr. Woodworth and himself with the Joint Congressional sub-Committees, in compliance with resolution (No. 12), directing that the plan for carrying out the investigations, be submitted to said Congressional Committees\*, which general plan of action was approved by them, with the stipulation that the information for the use of the Congressional Committees on Epidemic Diseases, shall be submitted as soon after January the 15th, as possible.

## [No. 13.]

<sup>[\*</sup> The following is the letter to the committee accompanying the memorandum of the action of the Board:

To the Honorable Isham G. Harris, Chairman Senate Committee; the Honorable Stanley Matthews, of Senate Committee; and the Honorable Casey Young, Chairman of House Committee:

GENTLEMEN—We have the honor to submit to you, on behalf of th Board of Experts, the accompanying memorandum, showing the action of

Dr. Bemiss offered the following resolutions, which were submitted seriatim and adopted:

[No. 14.]

Resolved, That the following four committees be appointed by the President of the Board of Experts:

1st. A Committee on Reports and Publications, to consist of

the President and Secretary, and three other members. 2ndly. A committee of five to report in regard to

"First. The origin, cause and distinctive features of Yellow Fever and Cholera, whether or not they are indigenous to any part of the United States. If not, how they are brought to this country, and the localities from which they come; and if found to be indigenous and also imported, in what proportion and to what extent has their presence in the United States been owing to importations."

"Second. The season of the year and atmospheric conditions,

when and in which they are propagated."

Thirdly. A committee of five to report in regard to "1st, the means to be adopted by which the introduction into this country of ('holera and Yellow Fever from other localitities may be prevented; and 2ndly, the method of preventing their propagation and spread when once introduced into any part of the United States."

Fourthly. A committee of three to report in regard to the number of deaths that have occurred in the United States during the present year; the expenditure of money, and the injury to business resulting therefrom.

It was further resolved that the President should be an exofficio member of each of the last three committees.

On motion of Dr. Mitchell, it was

[No. 15.]

Resolved. That the investigations so far made by the previous Yellow Fever Commission, and other investigations instituted by Dr. John M. Woodworth, Surgeon General United States Marine Hospital Service, be received, and adopted as a part of the work of this Board, and that the same be continued so as to embrace points not hitherto investigated.

It was also

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the Board in accordance with your instructions, together with resolutions adopted by the Board suggesting a general plan of operations by which

the desired information may be obtained.

It is understood that the information in relation to cholera, is to be prepared from the facts recorded in the literature on that subject, inasmuch as there is no present opportunity to investigate cholera; and if this interpretation is correct, a committee will be charged with the preparation of such information in an available and convenient form.

We have the honor to be,

Very respectfully, etc.,
JOHN M. WOODWORTH, President ex-officio of the Board of Experts. S. M. BEMISS, Member of Board of Experts. [No. 16.]

Resolved, That the President of this Board be requested to cause to be continued the microscopical investigations by Prof. Joseph G. Richardson and Robt. White, Assistant Surgeon United States Marine Hospital Service, upon pathological specimens from Yellow Fever subjects, and that the results of their observations be presented to this Board.

Col. Hardee moved, and it was

## . [No. 17.]

Resolved, That the President of this Board make application to the Congressional Committees for authority to employ sach clerical assistance as may be deemed necessary to facilitate the work of the members and Committees of the Board. In the performance of their several duties.

Col. Hardee moved, and it was

[No. 18.]

Resolved, That instead of all of the members of the tour Committees being required to visit the additional places enumerated in a previous resolution, the chairmen of the four Committees, on adjournment at Mamphis, shall consequent immediately in New Orleans, and there examine and take into consideration the papers and documents now on hand, for the purpose of drafting the required reports. And moreover that such additional investigations shall be conducted in New Orleans, as well as nearly as possible complete the work in that point, prior to the meeting of the Board of Experts at Washington, by the 15th of January.

The President was appointed a Committee to visit the Congressional Joint Committees, and to ascertain more definitely the latest date, when the Board of Experts will be required to report the results of its investigations into the five subjects of inquiry, ordered by the Joint Con-

gressional Committees.

Dr. Chaillé moved, and it was-

## [No. 19.]

Resolved, That Drs. Bemiss, Cochran, Mitchell, Mosher and Craft, be appointed a Committee to submit to the Board, and later than Saturday morning, a report upon the three following subjects.

1st. The construction and arrangement of a series of interrogations to be recommended to the two Joint Congressional Sub-Committees, for their use in their examinations of profes-

sional witnesses.

2d. The same for non-professional witnesses.

3d. Instructions and questions for a blank form—devised for the purpose of guiding the Experts engaged in investigating the history, etc. of Yellow Fever, at the different places where it occurred in 1878.

Adjourned at 1, P. M., to 71, P. M.

Friday, December 27, 1878.

The meeting of the Board was called to order at 8, P. M.

All the twelve members present, except Col. Hardee.

Dr. Bemiss presented the report of the Committee of five, appointed at this morning's session.

(1) Interrogatories suggested to the Joint Congressional Committees, to be propounded by them to professional witnesses; which were adopted.

(2) Interrogatories to non-professional witnesses; which were

adopted.

(3) A \*memerandum of points to be investigated by the members of the Board of Experts;" which was adopted.

The aforesaid interrogatories (1) (2) and memorandum (3),

are as follows:

#### [No. 20.]

(1) Interrogatories suggested by the Board of Experts to be propounded by the Congressional Committee to such members of the medical profession as they may examine:

1. Are you a practitioner of medicine in this place, and if so,

how long have you practiced here?

2. During what years have you had personal experience in Yellow Fever?

3. State any facts tending to prove that the Yellow Fever epi temic of 1878 originated in this place, giving the name, date and locality of any cases supposed to be of such origin, or indigenous.

N. B.—A similar question as to other years prior to 1878.)

1. State any facts tending to prove that the epidemic of 1878 arose from importation, either by contact with persons or things, giving the names, dates, and localities of imported cases or fomites.

5. When and where, in your knowledge, did the first case occur in this place?

6. State the names, dates, locality, whether a visitor or residen; when and how the disease was contracted, and other particulars.

7. Was this case reported to the Board of Health?

5. What was the exact or approximate date of the first case which occurred under your own observation; and state name, residence, and other leading facts in the case?

5. State any evasions or violations of quarantine, whether of

your own knowledge or by hearsay.

10. Was the quarantine efficiently administered?

11. What course was pursued by the Board of Health, other public officials or private individuals to arrest the spread of the epidemic, and with what results?

1. Wint circumstances or conditions appeared to you least or most favorable to the reproduction and propagation of Yellow

Fever poison?

15. What distance from an infected house do you consider a healthy person safe from the disease?

14. State briefly any facts not called for, which have a general or special bearing on the origin and propagation of Yellow Fever in this place during 1878, and during years prior thereto.

#### [No. 21.]

(2) INTERROGATORIES TO BE PROPOUNDED TO NON-PROFES-SIONAL WITNESSES.

1. State any facts tending to prove that cases of Yellow Fever existed in . place, during 1878, prior to ...date, giving

name, date, locality, etc.?

2. Do you know of any cases, or suspected cases of Yellow Fever prior to said date, on steam or other vessels, not reported either to quarantine officials or to the Board of Health?

3. Do you know of any violations or evasions of quarantine by persons who had, or were suspected to have had Yellow

Fever either at the time or afterwards?

3. Do you know of any steam or other vessels being at this port, and communicating or apparently communicating Yellow Fever to other vessels adjoining or near to them?

5. Do you know of any vessels arriving at this port which had had, or were suspected to have had Yellow Fever on board

before arriving at this port?

6. Do you know of any goods or merchandise, introduced by any mode of conveyance, arriving here from infected ports or places, and known or suspected to have communicated Yellow Fever to persons handling them?

7. State any facts regarding the spread of Yellow Fever from one part of this city to another, by contact with persons, or

things?

8. What kind of goods or merchandise appear to be least, and what most dangerous, as vehicles for the transportation of Yellow Fever?

9. Have bags of coffee, fruit, hides, coal, cotton bagging,

mail matter, etc., been known to convey the poison?

10. Mention any evasions or violations of quarantine known or reported to you, whether followed by Yellow Fever or not?

11. State any facts not called for, which may have a general or special bearing on the origin and spread of Yellow Fever during 1878.

[No. 22.]

(3.) Memorandum of points to be investigated by the members of the Board of Experts.

To get the following statistical data:

Total number of population.

Number who left the place on the appearance of the fever, with the date of the exodus.

Number of whites remaining; Number of mulattoes remaining; Number of blacks remaining; Total number of cases; Number of white cases; Number of mulatto cases; Number of black cases; Total number of deaths; Number of white deaths; Number of mulatto deaths.

To get, if possible, a complete list of cases, with names, dates of attack, dates of death, color, sex, age, etc.

To get especially, a complete list of deaths, with names,

dates, ages, colors, sex, etc.

To get the date of of the first imported or refugee case, and death thereof. Date of first case and of first death among inhabitants, the date of occurrence of the maximum number of cases in one day, and said maximum number, date of last case, total deaths, total population, and number of persons who ded.

To get the number of cases occurring among refugees in the

adjacent country, with number of deaths, etc.

To get the number of cases occurring amongst returned refugees, with names, dates, attendant circumstances, etc.

To get a list of all the earlier cases, with names, dates, etc., together with all the facts connected with them, tending in any way to account for their occurrence, and particularly in relation to infection.

To get the date and attendant circumstances of the last case. To get the date of occurrence of the maximum number of cases, and of the maximum number of deaths.

To trace the probable influence of the first cases in the pro-

duction of subsequent cases.

To get the data for geographical and topographical description.

To ascertain the local sanitary conditions in relation to drainage, markets, ponds, water supply, privies, etc,

To ascertain the influence of malarial surroundings on the

introduction, dissemination, and mortality of the fever.

To get such meteorological data as are accessible, together with the influence of winds and weather in the dissemination of the fever, and on its mortality.

To get all the facts connected with quarantine, its character,

efficiency, violations, and protective value.

To get all the facts in relation to the practice of disinfection, and its value.

To collect such other illustrative facts, not specially aentioned in this memorandum, as may come in the way.

The following was adopted:

[No. 23.]

Resolved, That the Joint Congressional Committee be requested to give authority to publish the proceedings of the

Board of Experts for the guidance of its members.

The membership of the four Committees [see No 14] to report to the Board of Experts, at its meeting in Washington on January 15th, upon the subjects designated by the Joint Congressional Committees for investigation, etc., was announced by the President as follows, viz:

[No. 24.]

Committee on Reports and Publications—The President of the Board; the Secretary of the Board; Dr. Bemiss, Dr. Cochran, Dr. Green.

#### [No. 25.]

Committee on the Origin, Cause, and Distinctive Features of Yellow Ferer and Cholera, et -Dr. Cochran, Dr. Crait, Dr. Falligant, Dr. Swearingen, Dr. Mosher.

Committee on the Means to be Adopted by which the Introduction and Spread of Yellow Fever an Cholera May be Prevented, etc.— Dr. Bemiss, Dr. Mitchell, Dr. osber, Dr. Randle, Dr. Craft.

Committee on Deaths, Experditure of Money, and Injury to Business—Dr. Green, Col. Hardee, Dr. Randle.

The President of the Board of Experts was made a member ex-officio of the three last Committees.

On motion of Dr. Bemiss the three following resolutions were adopted:

#### No 25.

Resolved, That the President instruct Drs. Cochran and Mitchell to report to the Jont Congressional Committee in session in Memphis, and offer heir services in aid of the objects of said Committee in collecting information.

#### [No. 29.]

Resolved, That Drs. Cochran and Bemiss be appointed a Committee empowered to divide the work in the field by experts prior to January 15th.

[No. 30.]

Resolved. That the part of the resolution which was previously adopted [see No. 18], requiring the Chairmen of Committees to proceed immediat (y o New Orleans, should, by instruction of the President, not apply to Dr. Cochran until his duties in Memphis, as a never indicated, have been discharged.

The Board of Experts then, t 10 o'clock, P. M., adjourned to

Saturday evening at the call of the President.

PEABODY HOTEL, (1500m No. 3), MEMPHIS, Tenn., Saturday, Dec. 28th, 1878.

The Board of Experts met at 10, A. M. Eleven members present, Col. Hardee absent. The President reported his interview with the Joint Congressmant Sub-Committees, as fol-

The President said: I have her an interview, this morning, with the Congressional Sub-Computtees, and laid before them the resolutions adopted by the Bound, to which they gave their verbal approval with certain modulcations which I will name. With the concurrence of the Congressional Sub-Committees on Epidemic Diseases, now in a salon in New Orleans, they approve of the employment of a draughtsman, to assist Col. Hardee, at a compensation not to exceed the rate of \$100 per month; and they suggest that he New Orleans Committees may be able to spare their's enographer and clerk to assist the Board for a portion of the time, and if not they will approve of the employment of not more than two clerks at the rate of \$75 per month for each, with the concurrence of the Sub-Committees in session in New Orleans.

The President stated the the Congressional Committees for Memphis desire an additional expert assigned to duty for a few days, in connection with District chiral and Mitchell, whereupon the Board at once resolved that Dr. Mosher be so assigned. The President also reported that the Congressional Committees

had approved the following:

#### [No. 31.]

"Resolved, That when the Board of Experts adjourns, it do adjourn to meet at the office of the President of the Board in Washington City (1421 G street), on the 15th of January next at ten o'clock, A. M., and that after adjournment the members of the Board shall enter immediately upon the work assigned to them."

Whereupon the said resolution was adopted by the Board.

#### [No. 32.]

The following is the order of assignment to duty of Experts in field service, as reported by Dr. Bemiss, Chairman of the Committee on said subject.

Lower Coast Group.—Morga—City, Berwick's Bay, Pilot Town, Cat Island, Canton, L. Furche Region, Teche Country.

Drs. Bemiss, Green and Chaillé.

Gulf Coast Group.—Pearing in, Bay St. Louis, Pass Christian, Mississippi City, Bulexi, Grean Springs, Pascagoula, Covington, Mandeville.

Dr. Falligant.

Inland Group. Hernando, Scratobia. Sardis, Moscow, Pol lierville, Erin, Paris.

Drs. Cochran, Swearingen and Randle.

Mississippi Kiver Group. Greenville, Friars Point, Vicksburg, Delhi, Bolton, Dry Grove Rankin, Milhken's Bend, Jackson.

Drs. Craft and Mosher.

To Memphis and Neighboring 'laces.—Dr. Mitchell.

Dr. Woodworth thanked the members of the Board for the courtesy and patience given him, and for their assiduous attention to duty, and for the harmony in its discharge,

On motion of Dr. Bemiss,

Resolved, That this Board extends its hearty thanks to the President for his courtesy and spiciency in the discharge of his duties.

The Board, then, at 11, A. M., adjourned to meet in Washington, on January 15th, 1879.

STANFORD E. CHAILLE, Secretary.

JOHN M. WOODWORTH, President Ex-officio.

#### CURRENT MEDICAL LITERATURE.

#### A NEW, CHEAP, AND SELF GENERATING DISINFECTANT.

Under this title, Dr. John Day, of Geelong, Australia, recommends for use in civil and military hospitals, and also for he purpose of destroying the poison-germs of small-pox, scar et fever, and other infectious diseases, a disinfectant ingeniously composed of one part of rectified oil of turpentine, and seven parts of benzine, with the addition of five drops of oil of verbena to each ounce. Its purifying and disinfecting properties are due to the power which is possessed by each of its ingredients of absorbing atmospheric oxygen, and converting it into peroxide of hydrogen—a highly active oxidising agent and very similar in its nature to ozone. Articles of clothing, furniture, wall-paper, carpeting, books, newspapers. letters, etc., may be perfectly saturated with it without receiving the slightest injury; and when it has been once freely applied to any rough or porous surface, its action will be persistent for an almost indefinite period. This may, at any time, be readily shown by pouring a few drops of a solution of iodide of potassium over the material which has been disinfected, when the peroxide of hydrogen which is being continually generated within it will quickly liberate the iodine from its combination with the potassium, and give rise to dark brown stains. It may be applied with a brush or a sponge, or, if more convenient, as is the case with certain articles, such as books, newspapers and letters, it may be simply poured over them until they are well soaked; they may then be allowed to dry, either in a warm room or in the open air.—British Medical Journal, April 27, 1878.

#### TURPENTINE VAPOR IN ACCIDENTS FROM CHLOROFORM VAPOR.

Dr. Wachsmuth, of Berlin, has suggested a preventive of those accidents which frequently occur in the administration of chloroform to produce anæsthesia. He says: It consists in the addition of one part of rectified oil of turpentine to five parts of chloroform. The oil of turpentine in vapor appears to exert a stimulating or life-giving effect on the lungs, and protects these organs from passing into that paralyzed state which seems to be produced by chloroform narcosis. Dr. Wachsmuth, while lying on a sick bed, accidentally breathed the vapor of turpentine, and he experienced from this a strongly refreshing feeling. This fact induced him to try the plan of adding oil of turpentine to chloroform when the latter was used for anæsthetic purposes. The beneficial results surpassed his expectation.—Boston Journal of Chemistry, October, 1878.

#### TREATMENT OF UNUNITED FRACTURE.

Mr. Fitzgerald, of Australia, in view of the unsuccessful results attained by the milder and severer remedies commonly used in treating this troublesome accident, strongly advocates the injection of glacial acetic acid, 5 to 10 minims, by means of the hypodermic syringe, between the unuited ends of bone. His experience of this method of treatment has been uniformly successful. It is attended by sharp pain at first, but this quickly subsides. Any cartilaginous thickening that may be present is soon resolved and reabsorbed, and bony union takes place rapidly, apposition of the ends of the bone being secured by well applied splints.—Med. and Surg, Reporter.

#### A DECEPTIVE PATIENT.

A story is told in the Revue Médicale de l'Est of a patient who lost his life by deceiving his doctor. The man was suffering from lead poisoning. The physician, oddly named Professor Forget, prescribed strychnia pills, which produced no effect. The dose was increased successively to two, three, five and six pills, without any result. Finally, the doctor ordered the patient to take five pills in his presence. The man did so, and died within two hours. After his death all the pills previously prescribed were found secreted behind his bed.—Proceedings Medical Society, County of Kings.

#### MEDICINE IN GREECE.

The University founded at Athens, in 1837, is one of the most magnificent edifices of the capital, in which are taught theology, law, medicine and philosophy, possesses a botanic garden, and a hospital for diseases of the eye, syphilis and accouchments. Medicine is taught there by twenty-one professors and seven substitutes, and during the forty years that have elapsed, eleven hundred and eighteen medical students have obtained their diplomas. The million and a half inhabitants of Greece may at the present time have recourse to seven hundred and ninety-seven doctors, three hundred and thirty-three pharmaciens, and seven hundred and sixty-nine midwives.—Hosp. Gaz., Nov. 14, 1878.

#### ANTIDOTE TO CARBOLIC ACID.

The Pharmaceutische Zeitung für Russland says that on the recommendation of Professor Baumann, Dr. Sanftleben has used sulphuric acid in in several cases of poisoning by carbolic acid with the best success, the phenol comb ning with the acid to form phenyl-sulphuric acid, which is not poisonous. He administered it in a mixture composed of diluted sulphuric acid 10.0, mucilage of gum 200.0, and a simple syrup 30.0 grams, in doses of a tablespoonful every hour.—Louisville Medical News, Sept. 7, 1878.

#### HOW TO KILL A TAPEWORM IN AN HOUR.

Kousso and kamela are expensive drugs, nauseous to the taste, not always effectual, and requiring several days to effect the death of the worm. Dr. Karl Bettelheim, of Vienna, narrates in the Deutches Archiv, a heroic method and nearly sure cure in the short space of time of three-quarters of an hour to two hours. It is this: He inserts a tube in the æsophagus, to the stomach, and pours down from 200 to 400 grammes of a very concentrated decoction of pomegranate root, having previously had his patient fast for twenty-four hours. The worm is stupefied and passed, head and all, to a certainty; the patient has no sickness of the stomach and no nauseous swallowing to do; and the drug is cheap.

## THOMAS ON LOWERING THE HIGH TEMPERATURE AFTER OVARIOTOMY.

In a paper published in the New York Medical Journal for August, Dr. T. Gaillard Thomas recommonds, in order to lower the temperature after ovariotomy, the use of Kibbee's fevercot. It consists of a frame supporting strong, elastic, cotton netting, manufactured for the purpose, through which water readily passes to the bottom below, which is of India rubber cloth, so adjusted as to convey it to a vessel at the foot. When not in use it can be closely folded (see LONDON MEDICAL RECORD, March 15, 1877, page 128.) The method of management is the following. Upon the cot a folded blanket is laid so as to protect the patient's body, and at one end is placed a pillow covered with India-rubber cloth, and a folded sheet is laid across the middle of the cot about two-thirds of its extent. Upon this the patient is now laid, and her clothing is lifted up to her arm pits and the body enveloped by the folded sheet, which extends from the axillæ to a little below the trochanters, The legs are covered by flannel drawers and the feet by warm woolen stockings, and against the soles of the latter bottles of warm water are placed. The blankets are placed over her, and, turning the blankets down below the pelvis, the physician takes a large pitcher of water at from 75° to 80° and pours it gently over the sheet. This it saturates, and then, percolating the network, it is caught by the India-rubber apron beneath, and, running down the gutter formed by this, is received in a tub. Water at higher or lower degrees of heat than this may be used. As a rule, it is better to begin with a high temperature, 85° or even 90°, and gradually diminish it.

The patient now lies in a thoroughly soaked sheet, with warm bottles to her feet, and is covered up carefully with dry blankets. Neither the portion of the thorax above the shoulders nor the inferior extremities are wet. The water is applied only to the trunk. The first effect of the affusion is often to elevate the temperature (a fact noticed by Currie himself); but the next affusion, practised at the end of an hour, pretty well brings it down. It is better to pour water at a moderate degree of coldness over the surface for ten or fifteen minutes, than to pour a colder fluid for a shorter time. The water slowly poured robs the body of heat more surely than when used in the other way. The water collected in the tub at the foot of the bed, having passed over the body, is usually 8° or 10° warmer than it was when poured from the pitcher.

At the end of every hour the result of the affusion is tested by the thermometer; and, if the temperature have not fallen, another affusion is practised, and this is kept up until the tem-

perature comes down to 1000 or less.

The patient lies constantly in a cold wet sheet; but this never becomes a fomentation. Dr. Thomas has kept patients upon the cot, enveloped in a wet sheet, for two or three weeks without discomfort to them and with the most marked control over the degree of animal heat. Ordinarily, after the temperature has come down to 99° or 100°, four or five hours will pass before affusion again becomes necessary.—London Medical Record, October 15, 1878.

#### Bulletin of the Public Health.

Issued by the Surgeon General, U. S. Marine Hospital Service, under the National Quarantine Act of 1878.

#### No. 20. November 23, 1878.

Yellow Fever in the Mississippi Valley.—Advices to the close of November 22, show the following number of new cases of yellow fever and deaths for the week ended on that day: There are 20 deaths in New Orleans, 2 deaths in Vicksburg, and 2 in the adjacent country; 3 at Delta, Miss., 8 cases and 4 deaths at Mobile. The last case reported in Morgan City, La., occurred November 19th, the last death November 15th. During the two weeks ended November 22d, there 4 new cases of yellow fever and 2 deaths at Decatur, Ala., 33 deaths at Memphis, and 2 deaths at Cairo, Ills. The last case at Cairo occurred October 28, and the last death November 15th.

It is advised that during the coming winter all of the rooms of every dwelling in the cities and towns which have suffered from yellow fever should be opened to the outer air for a sufficient length of time to subject them to a freezing temperature. Carpets, bedding, clothing, trunks, etc., should be exposed to the open air, and to a temperature below the freezing point. Unless this is done, sporadic cases may be anticipated, when the warm weather returns, from yellow fever poison which is

liable to survive the winter in dwellings which are kept con-

tinuously at an elevated temperature.

Baltimore, Md.—For the two weeks ended November 23d, the average annual rate of mortality in 1000 of the population, based on the weekly mortality, was 19.2. The deaths include 6 from enteric fever, 8 from diphtheria, and 6 from searlet fever.

Boston, Mass.—The average annual rate of mortality for the two weeks ended November 23d, was 21.9 per 1000. There were 4 deaths from enteric fever, 39 cases of scarlet fever and 4

deaths, 47 cases of diphtheria and 16 deaths.

Brooklyn, N. Y.—During the week ended November 16th, there were 3 cases of enteric fever and 2 deaths, 38 cases of searlet fever and 9 deaths, 56 cases of diphtheria and 19 deaths. The deaths from all causes show an average annual mortality of 20.0 per 1000 of the population.

Charleston, S. C.—During the week ended November 16th, there were 29 deaths from all causes, including 1 from diph-

theria.

Chicago, Ills.—The average annual death rate was 13.4 for the week ended November 9th. There were 11 deaths from diph-

theria, 2 from scarlet and 2 from enteric fevers.

Cleveland, Ohio.—For the week ended November 23d, there were 3 cases and 3 deaths from enteric fever, 4 cases and 1 death from scarlet fever, and 31 cases and 9 deaths from diphtheria. There were 44 deaths from all causes.

Cincinnati, Ohio.—During the week ended November 16th, there were 101 deaths from all causes, being at the rate of 18.8 per 1000 of the population. There were 26 deaths from scarlet fever, and 4 from diphtheria.

Milwaukee, Wis .- The mortality rate for the week ended No-

vember 16th, was 10.5.

Philadelphia, Pa.—For the week ended November 16th, the average annual rate of mortality was 16.8 per 1000. The deaths include 7 from enteric fever, 15 from scarlet fever, and 9 from diphtheria.

Havana, Cuba.—During the week ended November 16th, there were 15 deaths from yellow fever, and 6 from small-pox. For the week ended November 23d, there were 10 deaths from

vellow fever, and 4 from small-pox.

St. Thomas, West Indies.—For the four weeks ended October

31st, there were 12 cases of yellow fever and 8 deaths.

Tripoli, Africa.—A disease designated "febricula" by the local physicians prevailed during the six weeks ended October 28th, attacking 15,000 people out of a population of 20,000. No deaths have occurred. The attack lasts from six hours to five days, and leaves the patient in a very prostrate condition. The Arabs call the disease "the club" from the sufferers' feeling as if they had received a severe beating.

Vienna, Austria.—For the week ended October 19th, there were 325 deaths, being a mortality rate of 24 per 1000. The

deaths include 9 deaths from scarlet fever, and 18 from diphtheria. There were 3 cases of small-pox, and 8 of enteric fever.

Amsterdam.—During the week ended October 26th, there were: 1 death each from enteric fever, typhus fever, scarlet fever, diphtheria. Total deaths, 121. Rate of mortality, 20.8.

Antwerp.—For the week ended November 2d, there were 23 cases of enteric fever and 4 deaths. Total deaths, 68. Mortal-

ity rate, 27.

England.—In twenty large cities and towns having a population of millions show an annual rate of mortality of 22 per thousand of the population. The deaths include 4 from small-

pox, 200 from scarlet fever, and 19 from diphtheria.

Glasgow.—For the two weeks ended November 2d, there were 439 deaths from all causes, showing an average mortality rate of 21 per thousand. The deaths include 115 cases of enteric fever and 11 deaths, 69 cases of scarlet fever and 11 deaths, 20 cases of typhus fever, and 6 deaths from diphtheria.

#### No. 21. November 30th, 1878.

Yellow Fever.—During the week ended November 29th, very few new cases or deaths occurred at any of the infected points. At

Mobile.—There were 3 cases and 1 death. At New Orleans, there were 8 deaths; no new cases reported. At Memphis, there were 2 deaths. At Greenville, Miss., 1 death—a retugee.

Boston.—For the week ended November 30th, there were 149 deaths from all causes, being an average annual death rate of 22.1 per 1,000 of the population. There were 13 cases of scarlet fever and 5 deaths, 14 cases of diphtheria and 7 deaths, and 3 deaths from enteric fever.

Connecticut.—The report of the State Board for October shows 82 deaths in New Haven, and 66 in Hartford. Thirty-four per cent, of the deaths were from preventable diseases generally traceable to unsanitary conditions. In Orange, a whole family were seriously poisoned by well water contaminated by a drain from a sink.

Brooklyn.—For the week ended November 23d, the total deaths were 184, an average annual death rate of 17.2. There were 33 cases of scarlet fever and 8 deaths, 41 cases of diphtheria and 14 deaths, and 60 deaths from diseases of the respiratory system.

Philadelphia.—There were 295 deaths from all causes in the week ended November 23d, an average annual death rate of 17.5. There were 13 deaths from scarlet fever, and 11 from

diphtheria,

Baltimore.—During the week ended November 23d there were 106 deaths from all causes, an annual death rate of 15.5 per 1,000. Diphtheria caused 9 deaths, scarlet and enteric fevers 5 each, and phthisis 16.

District of Columbia.—The average annual death rate for October was 24.9. Preventable diseases caused nearly one-third of all of the deaths.

Richmond, Va.—During the week ended November 23d there were 25 deaths, an average annual ratio of 16.45 per 1000 of the population. In the week ended November 30th there were 20 deaths, a ratio of 13.16 per 1000.

Cleveland, Ohio.—For the week ended November 30th, the total deaths were 56, a mortality rate of 11.9 per 1000. There were 25 cases of diphtheria and 15 deaths, 6 cases of scarlet fever and 2 deaths.

Milwaukee, Wis.—Week ended November 23d, total deaths, 36. Mortality rate, 15.2. There were 23 cases of diphtheria and 2 deaths.

St. Louis, Mo.—For the week ended November 16th, in an estimated population of 500,000, there were 83 deaths reported, an average annual death rate of 8.63 per 1000. In the preceding week the annual average death rate was 10.5.

Charleston, S. C.—Week ended November 23d, total deaths,

37. Mortality rate, 38.5.

Savannah, Ga.—Week ended November 15th, total deaths, 18. Annual ratio, 26.

Selma, Ala.—The annual rates of deaths per 1000 for July was 40.7; for August, 52; for September, 34, and for October, 23.

New Orleans, La.—For the four weeks ended November 17th the deaths from all causes were respectively, 310, 193, 154, 135. The deaths from yellow fever were 177, 69, 31, 29; from "malarial fevers, 29, 19, 12, 7; from phthisis, 15, 15, 23, 21. Annual rate of mortality for the four weeks was 40; for the week ended November 17th, 34,4.

Havana, Cuba.—In the week ended November 30th there were 8 deaths from yellow fever and 6 from small-pox.

Bermuda.-No deaths occurred in a population of 15,200

during the week ended November 26th.

Rio de Janeiro.—Total deaths for the four weeks ended November 2d, 1287, being a mortality rate of 55.77 per 1000. There were 449 deaths from small-pox, 7 deaths from typhus, 13 from enteric, 34 from "pernicious," and 10 from yellow fever. The small pox is raging with great intensity in the province of Ceara.

Bahia.—For the week ended October 31st there were 57 deaths, a mortality rate of 22.6 per 1,000. The deaths include 7 from small-pox and 3 from typhus fever.

Ningpo, China, a city of 400,000 inhabitants, has no health board or hospitals. The prevailing diseases are: diarrhœa, enteric and typhus fevers, consumption, small-pox and cholera. The latter disease does not prevail epidemically.

Singapore.—The port and island are reported free from in-

fectious diseases up to October 16th.

Vienna.—For the two weeks ended November 2d there were 692 deaths from all causes, an annual death rate of 24.75 per 1,000. The deaths include 15 from small-pox, 12 from enteric fever, 6 from scarlet fever, and 38 from diphtheria.

Gibraltar. - Week ended October 20th there were 30 deaths,

a mortality rate of 26.3.

Great Britain.—For the three months ended September 30th there were 129,348 deaths in England from all causes, being an average annual rate of 20.6 deaths in 1,000 of the population. In 20 large cities and towns the death rate for the quarter year was 23.7. 23 per cent of the total deaths were from 7 preventable diseases. There were 17,528 deaths from diarrhæa, 4,348 from scarlet fever, 2,719 from other fevers, 649 from diphtheria, and 179 from small-pox. All but 16 of the fatal cases of small-pox occurred in London and its immediate vicinity. The percentage of deaths from diarrhæa was 3.7 per 1,000 of the residents of cities against 1.5 per 1,000 in the rural districts.

In 20 large English cities and towns, having an aggregate population of seven and a quarter millions, the average annual death rate for the four weeks preceding November 9th was successively 20, 21.6, 22, and 24.3; the increase being due to

the greater fatality of pulmonary diseases.

London.—The deaths from all causes, for the week ending November 9th, were equal to 23.2 per 1,000 in the city proper, and to 18.3 in the suburbs There were 119 cases of small-pox in the hospitals and 9 deaths. 8 out of the 9 deaths were certified as unvaccinated.

Liverpool.—For the week ended November 9th there were 263 deaths, an average annual death rate of 25.7 per 1,000. Scarlet fever caused 34 deaths, enteric fever 8, diphtheria 4.

Edinburgh.—The death rate per 1,000 for the week ended November 9th was 23. Nearly 50 per cent. of the deaths were due to pulmonary diseases.

Glasgow.—The death rate has continued steadily at 21 per

1,000 for 6 weeks.

Ireland.—For the three months ended September 30th the whole number of deaths was 20,390, an annual rate of 15.2 per 1,000. Diarrhœa caused 708 deaths, and small-pox 249. Seven preventable diseases caused 13.4 of the total deaths.

Dublin.—For the two weeks ended November 9th the deaths from all causes were 296, a mortality rate of 24.5. There were 8 deaths from small-pox, making 468 deaths from this cause

since January 1st, 1878.

On the Island of St. Kilda the deaths exceed the births in the ratio of 3 to  $2\frac{1}{2}$ . 90 per cent. of the infants born on the island die of "trismus nascentium," probably incuced by both the nursing mothers and the infants being fed almost wholly on the excessively fatty flesh of the petrel.

German Empire.—During the two weeks ended November 9th, there were 10,490 births and 6,535 deaths in 150 cities and towns of 15,000 inhabitants and upwards, having an aggregate population of 7,400,000. The average annual rate of mortality was 22.9 per 1,000 of the population against 24.3 for the week ended October 19th. The deaths include 318 from diphtheria, 228 from scarlet fever, and 2 from small-pox. Phthisis caused the death of 891 persons.

#### No. 22. December 7, 1878.

Yellow Fever has almost wholly disappeared from the Mississippi Valley. In New Orleans 4 deaths were reported during the past week. The total number of cases up to date is reported as 22,600. There was 1 death and 1 new case at Port Gibson, Miss. One new case (a returned refugee) at Meridian, Miss. One death at Memphis on December 6th; 3 cases and 1 death at Mobile for week ending December 10th.

New Haven.—For the mouth ended November 30th, there were 87 deaths from all causes, 19 being from preventable diseases. The annual death rate per 1,000 of the population

was 17.4.

New York.—Week ended December 7th, total deaths, 455; annual rate, 21.8; 28 deaths resulted from scarlet fever, 19 from diphtheria, 74 from phthisis, 49 from pneumonia, 17 from brouchitis, and 4 from enteric fever. During 1878 only two deaths from small-pox have occurred in the city. This immunity is attributed to the efficient system of free vaccination that is carried out.

Brooklyn.—Week ended November 30th, deaths from all causes, 155; annual rates, 14.68, 41 cases of scarlet fever; and 6 deaths, 37 cases of diphtheria, and 12 deaths; 22 deaths from phthisis, 20 deaths from pneumonia, 9 from bronchitis, and 7 from croup. Week ended December 7th, reported deaths from all causes, 175, rate, 16.6; 38 cases and 6 deaths from scarlet fever, 33 cases of diphtheria, and 12 deaths.

Philadelphia.—Week ended November 30th, total deaths, 299; annual ratio, 17.75; 7 deaths from diphtheria (minors), 6 from scarlet fever, 8 from enteric fever, 53 from phthisis, 20 from

pneumonia.

Boston.—Week ended December 7th, deaths from all causes, 143; annual rate, 21. There were 21 cases of scarlet fever, and

1 death, 30 cases of diphtheria and 8 deaths.

Wilmington, Del.—For the month ended November 30th, the total deaths were 59, including 7 from diphtheria, 2 from scarlet fever, and 1 from enteric fever; the annual rate, 17.7.

Baltimore.—Week ended December 7th, deaths from all causes, 120; annual rate, 17.1. There were 20 cases of enteric fever, and 5 deaths; 5 cases of diphtheria, and 1 death. Pneumonia prevalent.

Lynchburg, Va.—Month of November, total deaths, 23; rate, 16.3. Diarrhœa, diphtheria and enteric fever each caused 2 deaths.

Cleveland.—Week ended December 7th, total deaths, 49; annual rate, 15.7; 7 cases of scarlet fever, and 5 deaths; 23 cases of diphtheria, and 8 deaths.

Milwaukee.—Deaths from all causes, 38; annual rate, 16; 20

cases of diphtheria, with 9 deaths.

Nashville.—For the month ended November 30th, the total deaths numbered 40; "zymotic" causing 2 (dysentery), phthisis, 8, pneumonia 7 deaths; annual rate per 1,000 for the month, 14.76. Among the white population the rate was 11.42 per 1,000, against 20.87 in the colored.

Charleston.—Week ended November 30th, total deaths, 23;

annual ratio, 24.

Savannah.—For the week ended November 29th, the deaths reported numbered 29, an annual ratio of 54. For week ended December 7th, there were 12 deaths, ratio, 22.2.

Mobile.—For the month ended October 31st, there were 132

deaths, 40 being from yellow fever, 12 from phthisis.

Havana.—During the week ended December 7th, there were 10 deaths from yellow fever, and 12 from small-pox.

St. Thomas.—The U. S. Consul telegraphs that yellow fever

has appeared in the Island.

Great Britain.—Week ended November 16th, in 23 of the largest cities and towns of the United Kingdom, there were 5,637 births, and 3,993 deaths, an annual rate of 35.1 and 24.9 per 1,000 of the population, respectively, the death rate ranging from 14 at Leicester, and 17 at Portsmouth and Brighton to 32 at Liverpool. The percentage of deaths from 7 "zymotic" diseases per 1,000 of the population ranged from 0.5 at Brighton to 7.6 at Liverpool.

In London the total deaths for the week ended November 16th, were 1,665, a rate of 24.5 against 20.2 and 23.2 in the two preceding weeks. There were 434 deaths from pulmonary diseases, 269 being from bronchitis, 64 deaths from scarlet fever, 43 from whooping-cough, 13 from diphtheria, 37 from fevers, 16 from small-pox. No death from the latter disease occurred in any of the other 19 large cities of England.

Liverpool.—Week ended November 16th, total deaths, 322; annual rate, 31.5; 59 deaths from scarlet fever, 6 from enteric

fever, and 2 from diphtheria.

Dublin.—Week ended November 16th, deaths from all causes, 176; annual ratio, 30. There were 2 deaths from typhus, 5 from enteric, and 6 from scarlet fever, 32 from phthisis, and 42 from other pulmonary diseases. There were 62 cases of small-pox in the hospitals, and 11 deaths from the disease.

Galway.—Since July, small-pox has been fatally prevalent, 42 deaths having occurred in a population of 19,000 during

the 17 weeks preceding November 9th.

Edinburgh.—In the week ended November 16th, the death rate tell from 23 in the previous week to 16. From "zymotic" diseases, 2 deaths.

In Glasgew for the same week the rate rose from 21 to 26. Amsterdam.—For the 2 weeks ended November 16th, the deaths from all causes numbered 238, an annual ratio of 20.5; 2 deaths from typhus, 2 from enteric, and 4 from searlet fever Antwerp.—Week ended November 16th, 77 deaths; annual

rate, 25.4.

German Empire.— No statistical returns received. Diphtheria prevalent in various portions of the Empire, and public attention has been directed towards means of prevention of this scourge by the prostration of 6 members of the Royal family of Hesse with the disease, 2 having died.

Africa, Tangier.— During the 4 weeks preceding October 5th, there were 1,069 deaths at Casa Blança from cholera, 163 from small-pox, 32 from typhus fever; the total deaths from these diseases being 1,264 in a population estimated at 5,500. The Consul reports that no note is taken of deaths by

famine, accident, or common diseases.

India.—In Madras, enteric fever of a fatal type is very prevalent in the native portions of the city, which are described as extremely filthy, and quite devoid of sanitary regulations. In 1876–'7 the deaths from small-pox in India, numbered 200,000, and in the preceding 2 years, 500,000. During 1875–'6, only 2 deaths from this disease occurred among 120,000 European troops, the exemption being clearly due to vaccination.

The latest returns from the following cities give the annual death rate per 1000 for Madras at 52, Alexandria 50, Cracow 39, Bombay 37, Munich 34, Calcutta 33.4, St. Petersburgh 32, Rome 28, Vienna 27, Berlin 26, Paris 25, Rotterdam 25, Hamburg 23, Geneva 20, Copenhagen 19, Stockholm 15.

#### No. 23, December 14th, 1878.

Yellow Fever.—During the week the only deaths reported were 2 at Memphis on the 10th and 12th inst.

Burlington, Vt.—Month ended November 25th, deaths from all causes 22, an annual ratio of 16.5 to each 1,000 of the popu-

lation. 4 deaths from diphtheria.

Massachusetts.—For the week ended December 7th, in 16 cities with an estimated aggregate population of 742,000, there were 274 deaths, an average annual rate of 19.25. The local death rate ranged from 0 at Pittsfield (pop. 12,600) and 10 to 12 at Chelsea, Newburyport, Gloucester, Cambridge, and Worcester to 21.12 at Boston, 26.60 at Salem and 42 at Fall River. In the latter city the death rate from the principal "zymotic" diseases was nearly 25 per 1000 of the population. The average death rate from these diseases in the 16 cities was 4.

Boston.—Week ended December 14th. Total deaths 137.

Annual ratio 22; 17 cases of scarlet fever, 3 deaths; 15 cases of diphtheria, 10 deaths.

Providence, R. I.—Month of November. Total deaths 165. Annual rate 19.80. Deaths from phthisis 29, from pneumonia

12, from diphtheria 32, from scarlet fever 2.

New York City.—Week ended December 14th. Deaths from all causes 495. Annual rate 23.6. Phthsis caused 94 deaths, pneumonia 51, bronchitis 30, scarlet fever 36, diphtheria 21, enteric fever 5.

Hudson Co., N. Y., including Jersey City and Hoboken. In the month of November, in an estimated population of 180,000 there were 294 deaths, 42 being from diphtheria and croup, 12 from scarlet fever, 3 from enteric and 5 from "malarial" fever, 39 from phthisis, 28 from pneumonia. Annual rate 20.

Brooklyn.—Week ended December 14th. Total deaths 184. Rate 17.4. 71 cases of searlet fever, 7 deaths; 42 cases of diph-

theria, 7 deaths; 20 deaths from phthisis.

Philadelphia.—Two weeks ended December 14th. Total deaths 601. Annual rate 17.6. 32 deaths from diphtheria

(minors), 24 from scarlet fever.

Baltimore.—Week ended December 14th. Total deaths 95. Annual ratio 14. From scarlet fever 4 deaths, from enteric fever 3, from diphtheria 3, from phthisis 17.

Cleveland.—Week ended December 14th. Total deaths 47. Annual rate 15. 4 cases of scarlet fever, 2 deaths; 10 cases of

diphtheria, 8 deaths.

Cincinnati.—In the four weeks ended December 14th the deaths from all causes were, respectively, 96, 96, 111 and 83. From scarlet fever 16, 18, 26 and 17; phthisis 12, 17, 7 and 9; pneumonia and bronchitis 5, 9, 9 and 4. Annual rate 18, 18, 20 and 15. During 1878 1 death from small-pox.

Milwaukee.—Week ended December 7th 28 deaths. Ratio

12. 16 cases of diphtheria, 2 deaths.

St. Paul.—In the three months ended November 30th, there were 120 deaths. Annual rate 13. In June, July and August

deaths numbered 137, an annual ratio of 15.

St. Louis.—For the two weeks ended December 1st there 221 deaths, an annual ratio of 11.5 in the estimated population. Scarlet fever caused 2 deaths, diptheria 16, enteric fever 6, phthsis 28, pneumonia 21.

Norfolk.—In November 43 deaths, 9 being from phthisis, 5 from pneumonia, 11 from "zymotie" disease. Annual death

rate 22.4.

Charleston.—Week ended December 7th, 26 deaths. Annual rate 26.

Savannah.—Week ended December 13th, 25 deaths. Annual rate 46.4.

New Orleans.—For the three weeks preceding December 8th, the total deaths numbered respectively 104,100 and 88. From yellow fever 14, 4, 2; "malarial" fever 10, 7, 5; phthisis 7, 14, 9; pneumonia 7, 9, 6.

Havana.—Week ended December 16th, 9 deaths from yellow fever, 5 from small-pox.

Rio de Janeiro.—Week ended November 9th, 243 deaths, small-pox causing 65. Of 1321 deaths in October, 453 resulted from this disease.

Great Britain.—Week ended November 23d, in 23 cities, having an estimated population of 8,374,000, there were 3976 deaths, an average rate of 25 per 1000, ranging from 14 at Portsmouth, and 17 at Brighton, to 24 at Birmingham, 26 at Manchester, and 29 at Liverpool. The percentage of deaths from the principal preventable diseases, varied from less than 1. at Portsmouth; Brighton, Plymouth and Bristol, to 5. at Dublin, and 6.4 at Liverpool.

London.—Week ended November 23d, the total deaths numbered 1547, an annual ratio of 22.6 against 20.2, 23.2, 24.3 in the three preceding weeks. Bronchitis caused 207 deaths, pneumonia 107, scarlet fever 54, diphtheria 11, small-pox 7. There were 149 cases of the latter disease in the hospitals on November 23d. In inner London the death-rate was 22.6, in the outer suburban ring 17.9.

Dublin.—Week ended November 23d, deaths 213. Annual rate 35. 19 deaths from phthisis, 46 from bronchitis, 6 from scarlet fever, 11 from small-pox; 69 cases of the latter disease in the hospitals.

At *Cork* the death rate for the week was 38, at Derry 17, at Belfast 32. In the latter city 13 per cent. of all the deaths in October were caused by scarlet fever.

In Galway the death rate for the week was 43. Small-pox is still prevalent, and caused 32 per cent. of all the deaths in the preceding month.

German Empire.—In 148 cities and towns of more than 15,000 inhabitants, and an aggregate population of 7,451,536, during the week ended November 9th, there were 3336 deaths; an annual ratio of 23.3 against 22.7 in the preceding week. Phthisis caused 424 deaths, pneumonia 260, diphtheria 180, scarlet fever 117. 32.5 per cent. of all the deaths were among children less then 1 year of age. But 1 death in the empire from small-pox (at Breslau.)

Berlin—In week ended November 9th, 465 deaths; an annual rate of 24.5. Phthisis caused 56 deaths, diphtheria 36, scarlet fever 23.

For the week ended November 9th, the death rate at Breslau was 24, at Munich 33.7, at Dresden 21.8, at Leipzic 17.4, at Hamburgh 22.8, at Cologne 26.6, at Frankfort 15.7, at Strasburg 26.3.

Vienna.—Week ended November 9th, deaths from all causes 378. Annual ratio 27. 88 deaths from phthisis, 42 from pneumonia, 29 from diphtheria, 5 from scarlet fever, 6 from smallpox.

Paris—Week ended November 9th, 870 deaths, 163 being from phthisis, 100 from pneumonia, 25 from diphtheria, 20 from enteric fever. Annual rate 22.8.

Africa, Tangier.—Cholera is disappearing from the interior cities of Morocco, where it has prevailed for some months with great severity. At Casablança, in the week ended October 12th, there were 53 deaths from cholera, and 27 from small-pox. In the week ended October 19th, cholera caused 5 deaths and small-pox 17. (See Bulletin, No. 22.)

The latest weekly returns from the following cities show the average annual death rate: At Madras 51.4, Odessa 46.5, Buda-Pesth 41, Calcutta 38, Alexandria 45, Cracow 38, St. Petersburg, 32, Venice 31, Warsaw 30, Lisbon 29, Naples 22, Rome 21, Copenhagen 17, Stockholm 17.

[Note.—As soon after January 1, 1879, as practicable, the "Bulletin" will be printed in tabular form, and extended as far as useful and practical. Health officers and registrars of vital statistics who have been requested to furnish information, will aid in imparting to it the practical value it is desired it should possess, by forwarding their mortality returns as promptly as possible.]

#### Nos 24 and 25. December 28th, 1878.

Yellow Fever.—Since December 14th, the only cases reported

were 2, at Port Gibson, Miss., returned refugees.

Massachusetts.—For the two weeks ended December 21st, in 18 cities, with an aggregate population of about 770,000, there were 588 deaths, an annual ratio of 19.92 per 1000 of the population. 16 per cent. of all the deaths resulted from the principal "zymotic" diseases. Phthisis caused 102 deaths, pneumonia 58. Annual death rate for the two weeks at Worcester was 22.06, Cambridge 21.46, Lynn 16.5, Newton 9.15, Springfield 8.28.

Boston.—Two weeks ended December 28th, total deaths 330. Annual rate 23. 37 cases of scarlet fever, 6 deaths; 48 cases of diphtheria, 26 deaths. In the last week 36 deaths from phthisis, 19 from pneumonia.

New Haven. - Two weeks ended December 21st, deaths 38.

Annual rate 16.5

New York.—Two weeks ended December 28th, total deaths 977. Rate 23.3. 96 deaths from scarlet fever, 51 from diphtheria, 196 from phthisis, 87 from pneumonia, 43 from bronchitis.

Brooklyn.—Two weeks ended December 28th, total deaths 456. Annual ratio 21.6. 163 cases of scarlet fever, 26 deaths; 88 cases of diphtheria, 32 deaths; 44 deaths from phthisis, 47 from pneumonia and bronchitis, 1 case of small-pox, being the first reported since July, 1877; case imported from Montreal, 13 days in United States.

Philadelphia.—Two weeks ended December 28th, 591 deaths.

Annual rate 17.5. 15 deaths from enteric fever, 17 from scarlet fever, 27 from diphtheria.

Baltimore.—Two weeks ended December 28th, deaths 249. Annual ratio 17.8. 13 deaths from scarlet fever, 20 from diphtheria, 37 from phthisis.

District of Columbia.—Month of November 296 deaths. Rate 22.2.

Richmond.—Three weeks ended December 21st, total deaths Annual ratio 17.

Cleveland.—Two weeks ended December 28th, total deaths 100. Annual ratio 16. 10 cases of scarlet fever, 6 deaths; 29 cases of diphtheria, 16 deaths.

Milwaukee.—Two weeks ended December 21st, total deaths

Rate 14.5. 44 cases of diphtheria, 8 deaths.

Chicago.—Week ended December 14th, 155 deaths. Ratio 17.5. 7 deaths from scarlet fever, 7 from diphtheria, 3 from enteric fever.

St. Paul.—Month of November, total deaths 38. Annual ratio 13.

St. Louis. -- Two weeks ended December 15th, total deaths 217. Annual ratio 10.87.

Charleston.—Two weeks ended December 21st, total deaths Ratio 24.

Savannah.--Two weeks ended December 27th, total deaths Rate 44. In the colored population the death rate greatly exceeds that among the whites.

New Orleans.—Week ended December 15th, 92 deaths. Rate 22.7. Phthisis caused 13 deaths, pneumonia 7, diphtheria 3, vellow fever 1.

Salt Lake City. -- In the month of November there were 55

deaths, 24 being from diphtheria. Annual ratio 26.4.

San Francisco.—Two weeks ended December 16th, 165 deaths. 8 being from diphtheria, 3 from scarlet fever, 2 from enteric fever. Annual ratio 14.

Havana.—Two weeks ended December 28th, 12 deaths from

vellow fever, 19 from small-pox.

Pernambuco.—In the five weeks ended December 7th, there were 784 deaths, 223 being from small-pox. Annual ratio 50.

Bahia.—Two weeks ended December 1st, deaths from all

causes 141. Ratio 27. 6 deaths from small-pox,

Rio de Janeiro.—In the month of November the total deaths were 989. Annual ratio 40. Yellow fever caused 3 deaths, small-pox 236, against 453 from the same cause in October. The disease is disappearing from the capitol, but is making terrible ravages in the province of Ceará. The United States Consul officially reports that the deaths from small-pox in the city of Ceará average 300 per day.

Great Britain.—Two weeks ended December 7th. In 20 cities with an aggregate population of 7,270,000, there were 7705 deaths (400 being from accident) an average annual rate

of 27.6 per 1000 of the population. The rate at Portsmouth was 19, Brighton 23.6, Bristol 27, Manchester 31, Sheffield

34.6. Scarlet fever caused 420 deaths.

London.—In the two weeks there were 3640 deaths. Excluding 389 registered from a drowning accident in September, the rate was 23.7; 842 deaths resulted from pulmonary diseases, 132 from scarlet fever, 16 from diphtheria, 81 from whooping-cough, 56 from measles, 81 from various "fevers." There were 196 cases of small-pox in the hospitals on December 7, and 12 deaths during the two weeks in London, but none in the other 19 large cities of England.

Liverpool.—Two weeks ended December 7. Total deaths 703. Annual ratio 34.4. There were 69 deaths from scarlet fever.

Birmingham. -Two weeks ended December 7. Total deaths

419. Annual ratio 28.5; 67 deaths from scarlet fever.

Glasgow.—Month of November. Total deaths 1113. Annual rate 23.6. Scarlet fever caused 35 deaths, diphtheria 11, enteric fever 20.

Dublin.—In the two weeks ended December 7 the deaths numbered 414, an annual rate of 34.2. The deaths from acute pulmonary affections in the seven weeks preceding December 7, numbered respectively 21, 24, 30, 43, 57, 73, 89, and bore a direct relation to the meteorological conditions, the month being the coldest November since 1807. Small-pox caused 18 deaths, and 100 new cases were admitted to the hospitals during the fortnight. The disease also prevails with varying severity at Galway, Tullamore and other points in the island. Annual death rate at Galway was 37, Belfast 30, Cork 29, Derry 20.

Paris. -Two weeks ended December 5. Total deaths 1809. Annual ratio 23.6; 12 deaths from small-pox, 40 from enteric

fever.

German Empire.—Two weeks ended November 23. In 150 cities, with an aggregate population of 7,450,000, there were 7335 deaths, an annual ratio of 24.1. Thirty-one per cent. of all the deaths were of children under one year, and 14 per cent. of children between one and five years of age. Phthisis caused 903 deaths, 13 per cent.; pneumonia 539 deaths, 8 per cent.; scarlet fever 220 deaths, 3.2 per cent.; diphtheria 381 deaths, 5.5 per cent. respectively, of the whole number of deaths. But one death from small-pox in the Empire (at Hamburg).

Berlin.—Two weeks ended November 23. Total deaths 975. Annual ratio 245. Phthisis caused 108, pneumonia 60, scarlet

fever 54, diphtheria 71 deaths.

Vienna.—Two weeks ended November 23. Total deaths 759. Annual rate 21; 19 deaths from small pox, 35 deaths from diphtheria.

St. Petersburg.—Two weeks ended November 23. Total deaths 919. Annual ratio 35.6; small-pox caused 70 deaths, enteric fever 51 deaths.

India.—Calcutta.—Two weeks ended November 2. Total deaths 643. Annual ratio 39. Cholera caused 27, "fevers" 128 deaths.

Madras.—Two weeks ended Oct. 25. Total deaths 674. Annual ratio 44. "Fevers" caused 198 deaths, dysentery 115.

Bombay.-Two weeks ended November 5, 1067 deaths; 284

from "fevers." Annual ratio 34.

China.—On account of a recent flood malarial diseases are very prevalent. Cholera has existed for several months at Shanghai and Hongkow, from which points it was imported into Japan, appearing in epidemic form at Nagasaki and Yokohama in October and November.

Africa.—Cholera which has been prevailing extensively in the interior of Morocco, has reached the coast cities; 60 to 100

deaths daily are reported at Mogador.

ROBERT WHITE, JR.,

Assistant Surgeon, M. H. S.,
For the Surgeon-General, M. H. S., in his absence,

#### EDITORIAL.

#### The Congressional Yellow Fever Commission.

The Joint Committee of Congress for investigating the late epidemic of yellow fever, consisting of Senators Eustis, Lamar and Paddock, and Representatives Gibson and Hooker, have been in session in New Orleans since December 30th, to date (January 7.) Their line of investigation is shown in the Proceedings of the Board of Experts, held at Memphis during the last week of December, as printed on previous pages of this number of the Journal. Already a large number of our citizens, including many physicians supposed to be well versed in sanitary matters and yellow fever, and commercial men representing various interests of trade, have been examined.

As to the outbreak of 1878, the medical witnesses are by no means agreed upon its mode of origin. This arises from diversity of opinion upon the character of the disease, that is to say, whether it is exotic or indigenous. While most physicians believe that yellow fever was originally brought to New Orleans, from tropical American ports, a respectable number believe that the disease has obtained a permanent foothold, so that no new introduction is ever needed to produce an outbreak.

It is alleged that only "certain conditions" are necessary to light up an epidemic, but those conditions are never defined, and they are consequently quite uncertain in point of fact.

Others assent to the original introduction of the fever, but believe that the frost of severe winters destroys the infection, as shown by absence of original cases of yellow fever in 1877, and also in 1861 and 1862. In their view, the necessary conditions are presence of the specific infection (commonly regarded as disease germs) and prolonged temperature reaching to 80° F. The holders of both these theories are generally agreed upon the portability of the fever infection.

A third theory, advanced by a medical man of extended hospital experience, recognizes the occasional portability of the disease; but insists on its spontaneous origin at most of the places visited during 1878, in consequence of the prevalence of tropical heat far beyond its usual limits. This must imply spontaneous generation, new creation, or resignation to an inscrutable mystery.

The part played by unsanitary conditions, particularly decomposing organic matters, is another point of dispute. Some maintain that they are essential factors in the origin of the fever; others that they should be left entirely out of account; while a third class hold that they operate just so far as they affect the general standard of health, in predisposing individuals to an attack or in aggravating the disease.

All agree that the sanitary condition of New Orleans ought to be improved, particularly as to drainage and the disposal of foul and refuse substances; but the condition of the city in 1878, as compared with that of other years, is a matter of dispute. Some testify that there was no essential difference, admitting some flagrant abuses in the Department of Improvements; others are sweeping in their denunciations of the whole local authorities for neglect and mismanagement.

With regard to quarantine, it is generally agreed that the most effectual way to test the question of local or exotic source of infection is to enforce a quarantine of greater severity than the one heretofore carried out. Some even go so far as to advocate total non-intercourse with infected ports during the

six warm months; others believe the discharge of cargoes and thorough disinfection of them and the vessels would be sufficient, inasmuch as this plan has been found satisfactory at New York. A few, being fully convinced that New Orleans "lies within the yellow fever zone," regard quarantine as entirely useless, and contemplate with equanimity the prospect of the exclusion of New Orleans from intercourse with the interior country during the summer season-

It is evident, from the line of interrogation practiced by the Joint Committee, that they are in search of light, as afforded by the facts of the late epidemic and by the opinions of our leading physicians, to guide Congress towards suitable legislation tending to the repression of future outbreaks of yellow fever.

In this brief survey of the work of the Commission it is not our intention to advocate any plans or theories, but merely to contribute a small scrap to the history of the day. At some other and more convenient season, we may undertake to express some individual opinions.

The following announcement may be of interest to those of our readers who have had opportunities to observe and study Hydrophobia.

PRIZE OF ONE HUNDRED POUNDS FOR AN ESSAY ON HYDRO-PHOBIA: ITS NATURE, PREVENTION, AND TREATMENT, OFFERED BY V. F. BENETT STANFORD, Esq., M. P., TO BE AWARDED BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Conditions under which the above prize is to be competed for:

- (1) The essay must be in English, or accompanied by an English translation.
- (2) The essay must be delivered to the College on or before January 1, 1880.
- (3) Each essay to be accompanied by a sealed envelope containing the name and address of the author and bearing a motto on the outside, the same motto to be inscribed on the essay.
- (4) The essay may be the joint production of two or more authors.
- (5) The essay, if not published by the author within a year, to become the property of the College.

(6) The prize not to be awarded unless an essay of sufficient merit be presented.

The questions which are thought by the College specially to require investigation are:

(1) The origin and history of outbreaks of rabies, particularly in the United Kingdom and its dependencies.

(2) The best mode of prevention of rabies.

(3) The characteristics of rabies during life, and the anatomical and chemical changes which are associated with the disease in its successive stages, particularly in its commencement.

(4) The origin of hydrophobia in man.

(5) The chemical and anatomical morbid changes observed in the subjects of the disease, with special reference to those having their seat in the organs of the nervous system and in the salivary glands.

(6) The symptoms of the disease, particularly of its early

stage, as illustrated in well observed cases.

(7) The diagnosis of the disease in doubtful cases, from conditions more or less resembling it.

(8) The alleged prolonged latency of the malady.

(9) The efficacy of the various remedies and modes of preventing the disease which have been proposed, and what plan of treatment, whether prophylactic or curative, it would be most desirable to recommend for future trial.

#### REVIEWS AND BOOK NOTICES.

Lectures on Localization of Diseases of the Brain. Delivered at the Faculté de Médecine, Paris, 1875. By J. M. Charcot, Professor in the Faculty of Medicine of Paris, etc. Edited by Bourneville. Translated by Edward P. Fowler, M. D., New York. 8vo., pp. 133. New York: Wm. Wood & Co. 1878.

The scope of the work is explained by the following quotation from the author's preface:

"In the Lectures which Dr. Fowler has kindly taken the pains to submit to the appreciation of our American confrères, I have selected, as occasion required, information furnished by normal anatomy, experimental physiology, and clinical observation, illustrated by minute and methodical examination of organic lesions.

"I have always given precedence, however, to the lastmentioned order of testimony, convinced that, although normal anatomy and experimental physiology may serve to indicate the true direction; still, clinical and pathological research is

necessary (in case of the human subject) to a final judgment and to the furnishing of proof."

Of the twelve lectures in this volume, the first eight are entirely devoted to the anatomy, healthy and morbid, of the brain; the two following ones chiefly to lesions and their pathological consequences, such as cerebral hemianæsthesia, crossed ambliopia and lateral ambliopia; the eleventh, to the origin of the cerebral portion of the optic nerves; the last, to secondary degeneration (sclerosis). The subject of aphasia is barely alluded to, and no attempt is made to connect lesions of the gray substance of the cerebral hemispheres with intellectual abnormalities. It appears, in fact, that this most interesting branch of the subject has been omitted; or, we may hope, reserved for a future volume, from the author's closing words: "I have brought into relief an important fact, which should be utilized in the study of localization in the cerebral cortex; a difficult study, which we will attempt in our next lectures."

It is to be regretted that the volume closes here, for the most interesting portion of the subject remains to be told, and space certainly needed not to forbid its continuation. The book is abundantly illustrated with wood cuts, is rendered into fair English (not always grammatical, however), is well printed, but lacks an index.

S. S. H.

Lectures on Bright's Disease of the Kidneys, delivered at the School of Medicine of Paris, by J. M. Charcot, Prof. Faculty of Medicine, Physician to the Salpétrière, etc. Translated by Henry B. Millard, M. D. 8vo., pp. 100. New York: Wm. Wood & Co. 1878.

This volume consists of seven lectures, the two first of which treat of the normal anatomy and physiology of the kidneys. In regard to the excretory products, such as urea and uric acid, the author adopts the view that they pre-exist in the blood, and are merely filtered out by the kidneys. In determining the question, what part of the structure is concerned in this elimination, he adopts the conclusion reached from the recent experiments of Heidenhain. These are based on the special affinity of the kidney for indigo, in like manner as for urea and uric acid. The question between physiologists is, whether the glomeruli of the kidney are concerned in the

elimitation of urea, or merely separate water from the blood and leave the excretory work to the convoluted tubes and ascending portion of the loops of Henle. After suppressing the flow of urine in an animal by severing the spinal cord, Heidenhain found that indigo still passed into the kidney from the blood, coloring the convoluted tubes and the ascending branches of Henle's loop, but not the capsules of Bowman with the glomeruli nor the descending branches of the loop. The former, therefore, are presumed to be the portion of structure engaged in the excretory function, while the latter only separate water from the blood as a solvent.

The remaining chapters are devoted to the morbid anatomy and pathology of the different forms of Bright's disease. Here it is proper to observe that the author adopts the view entertained by many English and some American writers, that this group of maladies should not be considered as different stages or phases of the same morbid process, but as distinct and separate diseases affecting each its particular anatomical structure. The proper term is then Bright's diseases, each an original affection, though two forms may co-exist.

In these lecture nothing is said of treatment. They are illustrated by eighteen wood-cuts and two colored plates. The volume closes with an index, and its mechanical execution does credit to the publishers.

S. S. H.

Notes on the Treatment of Skin Diseases. By Robert Liveing, A. M. and M. D., Cantab., F. R. C. P., London. Lately Lecturer and Physician to Middlesex Hospital and Physician in charge of the skin department. Fourth edition, revised and enlarged, 18mo., pp. 127. New York: Wm. Wood & Co., 1878.

This little work was originally prepared for the use of the author's class in dematology at the Hospital, and was subsequently published at the request of his friends and former pupils. Within its scanty limits are to be found appended a glossary, a number of formulæ from Hebra, Anderson and others, and an index.

The classification is a composite production of the author, based upon the systems of Hebra and Wilson. While it will

be found tolerably complete as a nomenclature, the reader must by no means expect to find even the briefest further mention of many important diseases. The book probably presents an epitome of the author's course of class instruction, and its most convenient use must have been to aid his students to "cram" for his particular examination. Whether it would serve a similar purpose for other students, would depend upon the infinitesimal chance that their teacher should happen to pursue the same course.

As a guide to practitioners, we cannot honestly recommend the book, in the face of so many superior competitors. With its mechanical execution there is really no fault to be found.

S. S. H.

The History of the Civil War in America. By John S. C. Abbott, Author of Life of Napoleon, etc., 2 vols. 8vo. Vol. I, pp. 507, New York: Henry Bill, 1866. Vol. II, pp. 629, Norwich, Ct.: Henry Bill Publishing Co., 1873.

This work has been recently sent us by the Norwich publishers, for no good reason that we can possibly imagine. The animus which inspired its production sprang from political fanaticism and sectional hatred, as is shown by abusive epithets on every page. Its evident purpose was pecuniary profit, to be gained by pandering to the wrong prejudices and worst passions of the victorious North. It is impossible to believe at this day, nearly fourteen years since the close of the strife, that any man with patriotism broad enough for more than his own section, should desire to keep extant such a partisan story of the war. Possibly readers may still be found for the book in New England, but New England people would consult their credit abroad by keeping such books for home use exclusively. Here in the South we are sufficiently occupied with matters which concern our material prosperity, and have little time and less inclination to revive the bitterness of the past. We have no money to spare for detraction of the North, and no sensible person would speculate on our curiosity to read what our enemies chose to say against us at a time when partisan malice was counted patriotism. S. S. H.

#### METEOROLOGICAL REPORT FOR NOVEMBER, 1878.

	Т	EMPERATUI	æ.	Lear	lity	es.
Day of Month.	Maximum.	Minimum.	Range.	Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	60 67 69 70 71 75 74 76 71 75 64 66 67 72 64 66 68 71 65 64 71 76 75 64 67 75 64 67 75 64 67 75 64 66 67 71 67 67 67 67 67 67 67 67 67 67 67 67 67	42 46 49 54 53 60 61 61 58 57 62 57 50 50 60 55 56 56 57 53 55 47 48 55 58 48 48 43 42	18 21 20 16 18 15 13 15 13 15 13 16 17 16 17 12 09 08 10 11 18 10 17 19 14 19	30.089 30.297 30.299 30.260 30.260 30.657 30.113 30.116 30.122 30.112 29.956 30.073 30.097 30.057 29.915 30.029 30.035 29.874 29.881 29.916 30.022 30.055 29.946 29.931 29.891 29.891 30.094 30.0253	48.3 62.7 55.5 54.0 61.3 82.3 86.3 72.0 50.3 71.7 83.0 56.0 61.3 70.3 82.7 80.7 81.0 70.0 63.3 45.0 53.9 68.0 74.3 88.3 88.7 63.3 59.3	.00 .00 .00 .00 .00 .00 .00 .00 .00 .23 .00 .00 .00 .00 .61 1.77 .53 .00 .00 .00 .00 .00 .00
29 30	64 65	41 49	23 16	30.232 30.132	65.0 75.0	.00
Mean	68.3	52.76	15.56	30.086	68.4	Total: 7.78

MORTALITY IN NEW ORLEANS FROM NOVEMBER 31 TO DECEMBER 31, 1878, INCLUSIVE.

Week Ending.	Yellow Fever.	Malarial Fever.	Consumption.	Small- pox.	Pneu- monia.	Total Mortality.
December 8	2	5	9	0	6	88
" 15	1	1	13	0	7	92
" 22	0	1	9	0	4	79
" 29.	0	1	13	0	7	87
2 days end. 31	0	0	3	0	2	13
Totals	3	8	47	0	26	359

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

### FEBRUARY, 1879.

#### ORIGINAL COMMUNICATIONS.

#### Yellow Fever Epidemic of 1878 in New Orleans.

BY JOSEPH JONES, M. D.,

Professor of Chemistry and Clinical Medicine, Medical Department, University of Louisiana, Visiting Physician of Charity Hospital, New Orleans.

(Extracts from Clinical Lecture, delivered in the Amphitheatre of the Charity Hospital, January 8th, 1879. Reported for the New Orleans Medical and Surgical Journal.)

#### GENTLEMEN:

The yellow fever epidemic of 1878 in New Orleans will be considered under the following divisions:

- 1. Origin of the epidemic.
- 2. Value of quarantine.
- 3. Value of disinfection as practiced in New Orleans for the arrest of the epidemic of 1878.
- 4. Investigations instituted to determine the chemical constitution and microscopical characters of the yellow fever atmosphere.
- 5. Effects of injecting the secretions and blood and black vomit of patients into living animals.
- 6. Atmospheric temperature and changes and rain fall during the prevalence of the epidemic of 1878.
  - 7. Symptoms of yellow fever.
  - 8. Composition of the blood in yellow fever.

- 9. Composition of the urine and black vomit in yellow fever.
- 10. Pathological changes of the organs characteristic of yellow fever.
  - 11. Treatment of yellow fever.
- 12. Sanitary measures designed to prevent the recurrence of the disease in New Orleans.

I shall, as has been heretofore my custom when delivering clinical lectures in the amphitheatre of the Charity Hospital, pursue my subject steadily until an outline has been presented of the results of my studies and individual experience.

The question which first engages our attention is one of no ordinary difficulty, and has occasioned much earnest controversy.

## ORIGIN OF THE EPIDEMIC OF YELLOW FEVER IN NEW ORLEANS IN 1878.

Two views may be held as to the origin of the epidemic of yellow fever in New Orleans in 1878:

- 1st. That the fever was imported from Cuba, or some other foreign port south of New Orleans, in the Antilles or in Central or South America.
- 2d. That the fever was due, both in its origin and spread, to local causes and climatic conditions.

It is not my intention to weary you with extracts illustrating the diverse views held by distinguished physicians in this city as to the question of the domestic or foreign origin of yellow fever, but I shall simply adduce the views of two observers who once held distinguished positions in the medical staff of the Charity Hospital and in the Medical Department of the University of Louisiana.

The late Dr. John Harrison, in a valuable article entitled "Speculations on the Cause of Yellow Fever," published in The New Orleans Medical and Surgical Journal, March, 1847, thus states the facts which he regarded as undisputed with reference to the origin of yellow fever in New Orleans:

1. The yellow fever of Louisiana only makes its appearance where persons are collected in crowds, as in cities, watering places, etc. Persons who live in the country and confine them-

selves to it, though they be as unacclimated as any others, and as liable to the disease, are, nevertheless, perfectly safe from attack.

- 2. The production of yellow fever in New Orleans cannot be attributed to marsh malaria, or to any kind of agents generated by swamps, marshes, pools, or standing water of any kind; since we know that unacclimated persons may reside in the midst of swamps, and enjoy perfect health, whilst the city is being ravaged by pestilence.
- 3. The opinion that the disease is owing to miasm, brought by the north wind which generally prevails during the epidemic season, is therefore erroneous, since persons living in these very swamps, which the north wind traverses, are exempt from attack, provided they keep away from the city. On the the other hand, the south and southwest winds, which prevail at other seasons, traverse to reach New Orleans, swamps even greater than those passed over by the north wind.
- 4. The disease has been attributed to miasm generated by a part of the bed of the Mississippi, laid bare at low water; but it is well known that a healthier region than that called the coast is rarely to be met with in any country. This tract of land lies immediately on both banks of the river; and it is well known that unacclimated persons who spend the summer there, enjoy perfect health. Moreover, most of the inhabitants are themselves unacclimated, and are as liable to yellow fever as any other people when so imprudent as to visit the city during an epidemic.
- 5. Persons who arrive in the city during an epidemic from the healthiest regions, even by the ocean, are subject to attack on the sixth, fifth, fourth and even as early as third day after their arrival. Cases of attack on the third day after arrival were not uncommon during the epidemic of 1837. It is plain that these persons were subjected to the influence of some powerful local agent, which existed previous to their arrival.

From these facts it is obvious that the yellow fever of New Orleans arises from causes peculiar to the city, and which are confined to it, or to it and its immediate neighborhood.

Dr. Harrison thus formulates his theory of the origin of yellow fever:

The theory, then, of the etiology of yellow fever may be thus stated: From the accumulation of filth in large cities (chiefly night soil and the animal matters of urine), putrefaction must necessarily take place, and from this putrefaction, under certain meteorological conditions, there is generated a poison, which either in the form of a volatile oil, or other organic matter, held in solution by ammonia, floats in the atmosphere; is inhaled during the respiratory movements; is taken into the circulation and poisons the system. It produces specific effects, as much so as the matter of small-pox or scarlatina.

The formation of this poison begins under certain meteorological conditions, which are utterly unknown to us, continues while they last, and ceases with them. As we have said before, this poison is not a gas, but a volatile substance, constituted of organic matter as much so constituted, as the matter of smallpox or hydrophobia. The New Orleans Medical and Surgical Journal, March, 1848, pp. 569 and 580.

On the other hand, Prof. W. M. Carpenter, M. D. in his "Sketches from the Hstory of Yellow Fever," thus gives his general conclusions:

- 1. Yellow fever is a disease not native to the continent of America, but of foreign origin; introduced first from Siam, and afterwards aggravated in its type by the importation of the Bulam fever.
- 2. No well authenticated case of the specific disease called yellow fever has yet been known to occur on the American continent, under circumstances which precluded the possibility of infection, or even rendered it probable that it originated independent of transmission, either by going into infected localities, opening boxes or parcels from infected places, visiting boats or vessels from infected towns, or opening of rooms closed during the prevalence of an epidemic.
- 3. Since the introduction of the yellow fever into America, it has always existed in some part of its coasts. It prevails almost perpetually near the equator, where the temperature of winter is rarely low enough to destroy the infection; and it is carried by commerce to the countries lying north during that portion of the year between February and November, and to the regions to the southward from August to May.

- 4. Yellow fever is a disease sui generis and peculiar, and not a grade or type of bilious fever:
- 5. The yellow fever is not produced by a crowded population, neither by heat, moisture, marsh air, miasm, filth, nor by any combination or concurrence of them; otherwise it should always occur when these concur, and should not occur when the particular combination is absent; neither of which we find to be true.
- 6. The transmission of yellow fever depends exclusively on intercourse and commercial relations, any city being liable to infection in the precise ratio of its proximity to, and of its unrestricted communication with parts or places where the disease is epidemic.

  \* \* \* \*
- 7. Yellow fever requires for its transmission, a moderate summer temperature; a certain accumulation of people, as the crew of a vessel, or the population of a town, city, &c.
- 8. Under certain circumstances of population and temperature, the introduction of persons with yellow fever and of the air from places where the disease is epidemic, will frequently give rise to new cases, and finally to an epidemic of the disease. The infection may be conveyed—

Firstly, In boats or vessels which remain at the wharves, &c., in the infected city receiving and discharging freights, and then closing their hatches upon the contained air, may become the sealed vehicles of the transmission.

Secondly, Boxes or bales containing goods, particularly woolens, if packed and closed in an infected atmosphere, may carry the infection.

Thirdly, The clothes, bedding, &c., which have been used by persons with yellow fever, have been known to communicate the disease.

- 9. Certain ports are almost annually subject to epidemics of yellow fever. These, during the summer, we should alwas regard as infected, and during that period we should strictly enforce quarantine against all vessels sailing from or touching at them.
- 10. The healthy state of a vessel's crew is no proof that she may not be infected; for the crew may all be acclimated, while

the infection may be sealed up in her hold or contained in the cargo, &c., and may only exhibit itself after the arrival at a healthy port and among the unacclimated persons who may visit or receive freight from her.

- 11. Cleansing and ventilation do not always destroy the infection in a vessel. Therefore quarantine, with these precautionary measures, is not a sufficient guarantee for the public health.
- 12. The only means by which the public safety can be guarded, is to prevent all vessels coming from sickly ports or places from coming above the quarantine ground, whether their crews be sickly or not. Provision should be made enabling them to discharge and receive freights safely and expeditiously, and arrangements should be maintained by which the freights so discharged should be delivered to the consignees as soon as the time expires which may be deemed neessary for its perfect ventilation and disinfection.
- 13. The principal difficulties against which it will be necessary to guard in establishing quarantine for New Orleans is presented by the tow boats engaged in towing vessels from the mouths of the river.
- 14. It would certainly be safest to prohibit tow boats from towing of vessels from infected places at all.—Sketches from the History of Yellow Fever, disproving its domestic origin—New Orleans, 1844, pp. 47 and 57.

Dr. Carpenter endeavors to trace the disease by historical data, from its "so called" introduction into the West Indies from Siam in Asia in 1690, to the date of his writing in 1844.

It would be no difficult matter to array on one side the "observations" on the epidemic yellow fever of the southwest, by Dr. J. W. Monette, of Washington, Miss., and other noted champions of the contagious and infectious nature of yellow fever, and of the value of quarantine; and on the other, the learned writings of Bennet Dowler, Morton Dowler, Barton and others: but we have had the whole matter fought over again in our city during the recent sittings of the Yellow Fever Commission, and the question of the origin of yellow fever appears to have been left by the labors of the Commission in as great uncertainty as it was thirty years ago.

In examining these questions I shall confine myself to well known facts, and more especially to my own experience during the epidemic. I had not only the opportunity of treating a number of the first cases of yellow fever which occurred amongst the citizens of New Orleans, but I experienced the full force of the pestilence in my own person and in my family.

#### EXAMINATION OF OFFICIAL RECORDS AT QUARANTINE STA-TION, MISSISSIPPI RIVER.

A minute examination of the quarantine records discloses the fact that only three vessels infected with yellow fever had arrived at the quarantine during the months of April, May, June and July. The first was the Emily B. Souder, from Havana, with a crew of twenty men and nine passengers; one of the crew was transferred to the Quarantine Hospital having intermittent fever. The Emily B. Souder arrived at Mississippi Quarantine Station May 22, 1878, and was detained for six hours, during which time she was fumigated with sulphur burnt in pans. The steamship then passed up on the same day to the city, and presented a clean bill of health to the Custom House authorities. Clark, the purser, was ill when the vessel reached quarantiue, but managed to pass inspection as suffering merely from neuralgia. Upon his arrival in New Orleans, Clark was carried in a cab to the corner of Claiborne and Bienville streets, where he died, in convulsions, it is said. on the 25th of May. Both on ship and ashore Clark was attended by Dr. Drew, a physician familiar with vellow fever who affirmed that it was a case of malarial fever, and gave a certificate of death to that effect.

Tom. Elliott, engineer of the Emily B. Souder, was taken sick at the Sailors' Boarding House, No. 22 Girod street, corner of Girod and Front, about the 24th of May, and was attended by Dr. Loeber, who regarded this case as one of malarial fever. Elliott was removed to the Hotel Dieu on the evening of May 29th, where he died within a few hours. This case, which was pronounced intermittent fever by the attending physician, was declared to be yellow fever by the President of the Board of Health, who inspected the body after a postmortem examination had been made by two physicians. The

usual means of disinfection with sulphurous acid and carbolic acid were made within and around the houses where Clark and Elliott had been sick, and those to which they had been removed, and no more cases followed within the period usual for the spread of yellow fever.

The British steamer Borussia left Havana on the 18th of May, and arrived at the Mississippi quarantine station on the 21st, with five cases of yellow fever (two passengers and three of the crew), of which number three died in the hospital at the quarantine station. The crew of the Borussia numbered 47, and the passengers 51; total 98. This vessel was detained eleven and a half days at Mississippi quarantine station, and was fumigated for four hours each day, during that period, with sulphurous acid gas. The cargo was not removed. No other cases are known to have occurred on this steamship. Most of her passengers, it is said, went to Texas.

On the 28th of July, the schooner F. L. Richardson, eight days from Mantanzas, arrived at quarantine station with three cases of yellow fever on board, one of which died. The crew of the vessel consisted of eight, with one female passenger.

The schooner F. L. Richardson was detained at quarantine eleven days, and was fumigated with burning sulphur. In none of the preceding instances was the cargo of the vessels removed during the fumigation.

It has been intimated that other vessels entered the port of New Orleans with yellow fever, and that the quarantine was violated by fruit vessels and other ships entering New Orleans from infected ports. We have not, however, been able to trace such statements to an official or reliable source.

The following is an official statement of the vessels arriving at the Mississippi Quarantine Station, prepared by the quarantine physician, Dr. Carrington, and his assistant, Dr. Patton, in response to my request as a member of the Board of Health, State of Louisiana. This statement must be accepted as the best data which can be obtained as to the operations of the Mississippi Quarantine Station during the early stages (April to August) of the recent epidemic of yellow fever. Upon examination of this table\* one is struck with the remarkable exemption of the

quarantine station from yellow fever, only seven cases of yellow fever having entered the quarantine hospital from April up to the end of July, during which period about 282 vessels had passed the quarantine station:

THE EPIDEMIC OF 1878 HAS ADDED ANOTHER ILLUSTRATION OF THE DIFFICULTY OF ESTABLISHING AN ABSOLUTELY EFFICIENT QUARANTINE AT THE OUTLETS OF THE MISSISSIPPI VALLEY.

If we grant that Clark evaded the scrutiny of the quarantine physician, and that the Emily B. Souder brought the yellow fever to New Orleans in the month of May, 1878, then it will also be admitted by those who have studied the history of yellow fever in the Mississippi Valley, that such facts confirm the experience of all previous quarantine physicians and boards of health, that it is exceedingly difficult, even with the most rigid quarantine regulations, to exclude yellow fever from New Orleans, especially as she has so many avenues of communication with the Gulf of Mexico and the Antilles in which yellow fever is supposed to be indigenous.

The following facts with reference to the appearance of the fever in former years, will show, in a measure, at least, what the "quarantine" has accomplished for New Orleans. Professor Stanford E. Chaillé,\* M. D., at present acting as one of the experts to the United States Yellow Fever Commission, thus sums up the results of his studies as to the failure of quarantine.

"Quarantine.—This is based on the theory that yellow fever is imported into New Orleans, that it is communicable from person to person, and therefore that by excluding every case of the disease the city can be protected from its ravages. What are the facts?

"The first quarantine established was maintained only four years, 1821-4, having been abandoned early in 1825, from the general conviction that it had proved worse than useless, for yellow fever was present every year, and to the extent of a

Vital Statistics of New Orleans, from 1790 to 1874, by Stanford E. Chaillé, M. D., Professor of Physiological and Pathological Anatomy, Medical Department, University of Louisiana. The New Orleans Medical and Surgical Journal, July, 1874. N. S., Vol. II., No. 1, pp. 13 and 15.

very violent epidemic in 1822, and an epidemic in 1824. After thirty years discontinuance, the quarantine, which is still enforced, was re-established in March, 1855. Very violent epidemics occurred in 1855, 1858 and 1867, and (excepting 1861) there have been deaths by yellow fever every year of the existence of the present quarantine.

"Thus, including the whole time, seventy-eight years, 1796–1873, there have been twenty-three years with quarantine. During these there have been deaths of yellow fever every year (1861 excepted), and there have been five epidemics, of which four (1822, 1855, 1858, 1867,) were very violent.

"These facts render it manifest that after twenty-three years' trial, quarantine has annually failed in its sole object—to keep all cases of yellow fever out of the city. During the military occupation of New Orleans the experiment was tried, whether this failure was attributable to defects of the law, or of its execution; for by this exercise of absolute and relentless military authority, an impregnable system of quarantine was maintained, and notwithstanding its remorseless rigidity there were cases of yellow fever among the civil population every year. Worse even than this for the advocates of quarantine, for in 1863 and 1864 it prevailed especially on board the vessels of the United States. Now, as to these cases, it is asserted that 'the official usages and the armed discipline of the naval fleet in the harbor of New Orleans and upon the river, enabled the medical officers to trace to its source every case of yellow fever.' That when the disease appeared on one vessel, all other vessels were prevented, by armed superveillance and discipline, from communicating with the infected vessel, and in spite of all this, the disease could not be traced to importation. In fact, there was in 1863 but one vessel (the Spanish man-of-war Pizarro) which even approached the port of New Orleans with yellow fever, and this vessel was kept at the quarantine sixty-five miles below the city, thus rendering communication with the river fleet impossible; and in 1864, when twenty-five vessels, ironclad gun boats, etc., in the river and lake, were attacked with vellow fever, not one infected from a foreign port arrived, even at the quarantine station.

"Avoiding discussion of the communicability of yellow fever, and therefore of the theoretical value of quarantine, the conclusion from the facts given cannot be escaped—that quarantine has entirely failed, even under circumstances very exceptionally favorable to it, to prevent the occurrence of yellow fever, and has had no practical value in protecting this city. That New Orleans has the capacity to originate yellow fever, just as well as Havana or Rio Janeiro, is an assertion which I deem indisputable, and which was often made by the deceased Prof. Stone, whose ability, as also his experience in this disease were unequalled in this city. The experience of the United States river fleet at New Orleans in 1863 and 1864 confirms many other indications that yellow fever is especially prone to originate in the holds of vessels."

The investigations of Prof. Chaillé have therefore led him to the belief that yellow fever has originated in New Orleans and in vessels in the Mississippi river and the lake, and that up to the time of his writing (July, 1874), quarantine had proved ineffectual in protecting the city from its ravages.

The Sanitary Commission, appointed by the Board of Health to investigate the origin and causes of the great yellow fever epidemic of 1853, which destroyed 7849 inhabitants of New Orleans, and which commenced as early as the 22d of May, (May, 2 deaths; June, 31; July, 1521; August, 5133; September, 982; October, 147; November, 28; December, 4), expressed their belief that:

THE EPIDEMIC WAS NOT DERIVED FROM ABROAD, BUT WAS OF SPONTANEOUS ORIGIN.

"That there existed here, as attested by our records, very peculiar meteorological conditions, known by general experience to be capable of producing, in co-operation with local causes, fatal and malignant forms of fever:

"That these conditions were present, in an exaggerated degree, and impressed upon the prevalent type of disease susceptibilities and habits assimilating it to another and distinct form of fever:

"That this showed in all these localities within the range of

the meteorological state or influence, an infectiveness not necessary to or characteristic of the fever, but purely casual and incidental, the results of physical causes, and which it loses as soon as these causes are changed or disappear." Report, p. 503.

The views of this able commission composed of Hon. A. D. Crossman, Mayor of New Orleans, and Drs. E. H. Barton, A. F. Axson, S. D. McNeil, J. C. Simonds and J. L. Riddel, were sustained by the heavy mortality of 1853, 1854 and 1855. In 1853, the total mortality was 15,633, and the deaths from yellow fever 7849. In 1854, the total deaths were 11,347; the total deaths from yellow fever were 2316. In 1855, the total deaths were 10,096, and the deaths from yellow fever 2615.

During this terrible period of these years, therefore, New Orleans lost 37,076 of her inhabitants, of which about one-third, or more accurately 12,780, were destroyed by yellow fever. Surely, her authorities were justified in devising and executing any system of sanitary reform which promised relief from this fearful pestilence.

The year 1855 appeared to have been eminently adapted to test the value of quarantine, for if any of the so-called germs of yellow fever had formed a lodgment in New Orleans, they must inevitably have been frozen out and killed by the unexampled rigors of the winter preceding the pestilence of 1855.

According to Dr. E, H. Barton, two circumstances remarkably characterized the winter: its great precipitation and its long continued depressed temperature. In relation to the first, more rain fell than during any winter since 1842, about which period the climate of New Orleans was characterized by immense precipitations, embracing the years 1838-9-40 and 1841. And in relation to the latter (or its temperature), no winter for more than thirty years approached it nearer than a fraction less than two degress, and that was the winter of 1837. It was colder by near seven degrees than the average of thirty-three winters, and it had the coldest January of any that had occurred since 1826, when it was only half a degree colder. The severe spell commenced on Christmas day, when the mercury descended be-

low the freezing point. It was below the freezing point, on at least twelve days, at sunrise in the month of January; the average for the whole month being 41° 38′, or below the ordinary temperature above ground, when the frost is found at the surface.

After describing the filthy condition of the city, and the reckless disregard of the legislative and civil authorities to the sanitary needs of New Orleans, Dr. Barton thus describes the effects of the quarantine of 1855:

"But to the astonishment of nearly every well-wisher to the city, but the deluded, both at home and abroad, the determination is now come to take the shorter cut and adopt the desperate course of denying the truth of more than fifty years of experience altogether, and attribute all our ills to a foreign source, not only against every theory of propability, but even where the common law of error does not exist, rather than have the manliness to acknowledge ignorance and set about correcting it at even so late a period. And as if to make this experiment more conclusive (on one side or the other), the city was left in its normal condition, the experimentum crucis of mixing up nearly all the concentrated filth of this city in one great witch's cauldron, at Gormley's Basin, and other conditions mentioned on a preceding page, was fully tried, and the result, true to its antecedents, has as invariably followed; the besom of pestilence has again swept over our devoted city, carrying with it 2615 victims by yellow fever. But the remedy, the prevention to all this mass of ills, what becomes of that? Unskillful teachers, with an obstinacy worthy of a better cause, determined not to acknowledge the paternity of any pestilence, have induced legislative authority to establish quarantine as a placebo for every ill. Its boasted virtues had no effect; the fever broke out, almost simultaneously, in different and distant sections of the city, and it was fondly hoped that at least one benefit would follow this additional but melancholy page of historical fact, and \$100,000 of expense upon an impoverished people and crippled commerce, in spite of the vaunting of the neophite of the past, would result in the public mind, being now content with the conviction of its inefficiency, without further experiments. But not so; political partizans are to be rewarded, more follies are to be perpetrated, and the patience and long suffering of this people are to undergo another year's trial."\*

. In 1858 the deaths from vellow fever numbered 4855, and according the learned and accomplished President of the Board of Health, Dr. A. F. Axson, tu the first two cases of fever occurring in this city were persons residing on a ship in immediate proximity to the Elizabeth Ellen, which arrived from St. Thomas on the 4th of June. The next earliest cases were some half dozen or more subjects, all of whom sickened in the first of these vessels, or on other vessels lying contiguous to the wharf where the Elizabeth Ellen lay. The history of this latter ship and her unhappy notoriety as the reported cause of the pestilence, is briefly told. She visited St. Thomas with a cargo of coal, shipped in Newport, Wales. She lay in that port selling coal to the English steamers, and on concluding her sales left in ballast, with eleven passengers, all acclimated, for New Orleans. On her voyage hither, a man is buried at sea, after spitting up or throwing up blood, and in a few days subsequent to this occurrence, the captain, who attended, and several of the crew, his comrades and sleeping companions in the cock-pit, fell successively sick and all with fever."

In the following year, 1859, yellow fever occasioned the death of ninety-two persons, and Dr. Axson, the President of the Board of Health, affirmed in his official report that, "as far as any evidence to the contrary is known, it was incontestibly of domestic origin, the product of soil, season and susceptible subjects existing concurrently together."

In 1860, only fifteen deaths were recorded as caused by yellow fever, and Dr. C. Deléry, President of the Board of Health, says: "Although yellow fever, in its *epidemic* form, has not reigned during last summer, it must be admitted that certain *sporadic* cases have occurred, which cannot be attributed to importation; for besides the strict observance of the quaran-

<sup>\*</sup>Report on the Meteorology, Mortality and Sanitary Condition of New Orleans for the years 1854 and 1855. By E. H. Barton, pp. 27 and 28. See also Trans. Am. Med. Ass'n, 1856.

<sup>†</sup>Report Board of Health, January, 1859, p. 9.

<sup>||</sup> Annual Report Board of Health, January, 1860, p. 17.

tine law until the period fixed by the Board (10th October), it is certain that not a single case of yellow fever broke out, either on board of a vessel in our port, or in the vicinity thereof." No case whatever of yellow fever was imported in 1861, and the disease does not appear in the mortuary report.

The distinguished sanitarian, Dr. Elisha Harris, in his elaborate article, "Yellow Fever on the Atlantic Coast and at the South during the War," established that:

"The fact appears to be indisputable, that yellow fever visited twenty-five vessels in the fleet anchored in the river in front of New Orleans during the summer of 1864, and that the disease appeared first, namely, as early as September 12th, in vessels that had been for a long time at anchor there. Filthiness, crowding, excessive heat and moisture, and utter lack of ventilation and lighting, together with the stagnation of the local atmosphere of these oven-like boats incident to anchorage in a tideless stream, constitute the leading facts relating to the infected vessels.

"That yellow fever, the most dreaded scourge of New Orleans and of the American tropics, was unequivocally generated in a large number of filthy and unventilated gun boats and other naval vessels lying idly at anchor within a mile from the densest portion of the city.

"That by fomites, or some other material agency, the infection of yellow fever was communicated to the guards.

"That the infected vessels were so closely sealed in by their exterior covering of iron plates that they possessed all the local conditions that are known to be required for the spontaneous production of the yellow fever poison in its lowest habitats."—Sanitary Memoirs, U.S. Sanitary Commission, 1867, Medical, p. 264, 266.

In 1866 the deaths from yellow fever numbered 185; in August, 5; September, 56; October, 89; November, 31; December, 4. Dr. S. A. Smith,\* President of the Board of Health, states that "the mortality was almost entirely in persons unacclimated or recently from foreign countries or Northern States. The first case known to have occurred was that of a

<sup>&</sup>quot;Reports of the Board of Health, January, 1867, p. 6.

Frenchman employed at Mr. Griswold's on Canal street, and who boarded at the Orleans Hotel on Chartres street. He died with black vomit at the Hotel Dieu, under the care of Dr. Boyer, on the 10th of August. This man had not been out of the city for several months, save to hunt or fish in the neighborhood. On the Sunday prior to his attack he had been out on one of these excursions and complained on his return of fatigue and weariness. It was a month before any other fatal case was reported. The Board has been unable to trace the introduction of this disease through the quarantine limits."

In 1867, when yellow fever occasioned 3107 deaths, Dr. Smith, President of the Board of Health, affirmed in his official report that the Board was "unable to trace its introduction from without in the first case."

In 1869, the yellow fever clearly originated in the shipping. On the 21st of September, the ship Belgravia, Captain Andrew Orkney, arrived from Liverpool, direct with a clean bill of health. She had no sickness during the voyage and did not pass within fifteen miles of any land. On the 13th instant the captain was attacked with symptoms simulating yellow fever. On the first day of October, two of her crew were suddenly and violently attacked with all the symptoms of yellow fever, and were at once removed to the Charity Hospital, when one of the cases terminated in death, preceded by black vomit, on the second day of his admission. The other case presented all of the marked characteristics of yellow fever—even black vomit, but resulted favorably."—Annual Report of the Board of Health, December 31st, 1869, p. 28.

In 1868, 3 deaths from yellow fever.

In 1869, 3 deaths from yellow fever, 1 in July and 2 in October.

1870—An officer of the steamer Agnes recently returned from a trip to Honduras, having touched last at Port Cabello, and arriving May 16, was taken sick May 26, and died June 2. No other cases occurred in the immediate vicinity during the remainder of the year. The next case in the First District occurred at No. 186 Dryades street, September 6, in the person of an Italian from the French Market.

In 1870 there were 587 deaths from yellow fever, but a direct connection with foreign importation was not established to the entire satisfaction of the profession, unless it should be assumed that the disease had been introduced by the first case.

1873—It is admitted, officially, that in 1873 yellow fever was introduced by the bark Valparaiso. The first case in that year was in the person of José Maria Arua, mate of the Spanish bark Valparaiso. This bark left Havana June 15th, in ballast, and arrived at the Mississippi Quarantine Station June 24, and was detained there two days; on being released she reached the city June 26th. From this bark the disease is said to have spread to the surrounding steamboats in the Fourth District. Other cases, however, occurred which could not be traced to the Valparaiso.

1874—20 cases of yellow fever occurred, but these were not traced to any foreign origin.

1875—100 cases of yellow fever were officially reported. The disease first appeared in the Second District, in a locality embraced within the area of four or five squares.

1876—The disease appeared in the Fourth District, and occasioned 42 deaths in all. The origin of the disease could not be traced to foreign importation.

#### WHAT IS THE REMEDY ?

How can this inefficient system of quarantine be remedied? The difficulty lies not only in the location of quarantine stations, so as to command all avenues of approach, but also in the possibility of yellow fever poison arising under certain climatic conditions in New Orleans—a view which was held by some of the ablest physicians, as Dr. Dowler, Dr. Stone and Dr. Barton. I do not pretend to say that there is any remedy now known that would prevent future epidemics. But every sensible man will concede that a searching inquiry should be made into the subject of the introduction and spread of the yellow fever in the Mississippi Valley. The Legislature of Louisiana should investigate the entire subject and make the investigation so complete as to embrace not merely the imperfections of the quarantine system and municipal sanitary regulations, but also to comprehend the systems of quarantine in

New York, Philadelphia and other cities. The New York quarantine system is especially worthy of the most careful study, as it has prevented, during the last 50 years, the spread of fever from infected vessels.

One great defect in the Mississippi quarantine system is that there are no arrangements for breaking the bulk of the cargo, and no thorough fumigation of vessels infected with yellow fever can take place unless the bulk is broken. The mere burning of sulphur in pans, or the injection of the fumes, is not sufficient to thoroughly disinfect the vessel.

Quarantine should not only command all the outlets and inlets to New Orleans, but all vessels from infected ports should either be entirely excluded, or else the cargoes should be landed at the Quarantine Station, and should be thoroughly fumigated and then transferred to lighters to be transmitted to the city. Upon no consideration should a vessel from an infected port be allowed to come up to the port of New Orleans. Vessels trading with Southern ports liable to be affected with yellow fever, should be constantly under sanitary police. A medical officer should accompany the vessel and superintend the crew in the infected port, and disinfect the vessel in port and upon the voyage, and see that every proper sanitary measure be instituted. An imperfect quarantine such as now exists at the outlets of the Mississippi has been and will be a sham and a delusion. The question of the foreign and domestic origin of yellow fever should be determined by an absolute quarantine.

FIRST CASES OF YELLOW FEVER OCCURRING AMONGST THE CITIZENS OF NEW ORLEANS.

Under this division I shall confine myself chiefly to my individual experience.

I was called on the 16th July to see a child, D. B. Kirtz; age two years and four months, native of New Orleans; residence 124 Constance Street. Upon inquiry found that this little boy had been seized with fever on the 13th of July. At the time of my visit on the 4th day of the disease, the patient was delirious; capillaries of face and extremities congested; pulse rapid, temperature elevated; with marked jaundice; vomiting; urinary suppression. I remained with this patient the greater portion

of the night of the 16th inst. The child threw up black vomit and died at 1 A. M., July 17th, 1878. I announced the case to the Board of Health, State of Louisiana, on the morning of the 17th July; showed the black vomit to Dr. Choppin, President of the Board. The Board of Health ordered the premises disinfected, and caused large quantities of carbolic acid to be scattered in the gutters and on the streets, freely, for several squares around. The mother of this child was a native of New Orleans, and the father was a native of Louisiana, and had resided in New Orleans since 1853. Two other cases of yellow fever occurred subsequently in the same family, both of which recovered. Mr. Kirtz was a clerk in a shoe store on Canal Street near the corner of Baronne Street.

On the 16th of July, I visited a case of yellow fever, in the adjoining house, 122 Constance street, Lee Caven, age six years, a native of Pennsylvania; had resided in New Orleans three years. This child was attacked on the 16th, about three days after the case previously described. The fever was high, the temperature in the axilla reaching 104° six hours after the onset of the disease, when the boy was seized with convulsions.

The father of this child, Mr. Caven, was engineer on the steam tug Charlie B. Woods. This family, residing at 122 Constance street, consisted of Mr. Caven, Mrs. Caven and their two sons, Lee and Garrie, and Mrs. Wassen, the mother of Mrs. Caven.

At the time of my visit, on the 16th of July, Mrs. Wassen presented a feeble and jaundiced appearance, and informed me that she had been seized with a severe fever on the 30th of June. The symptoms as described by Mrs. Wassen and her daughter, Mrs. Caven, were evidently those of yellow fever. Mrs. Wassen, aged sixty years, arrived in New Orleans from . Kentucky June 13th, 1878; came by steamboat on the Mississippi river, and shortly after her arrival in this city was engaged in nursing a sick lady at 258 St. Andrew street. Mrs. Wassen passed through the entire epidemic without any subsequent attack of fever, although she nursed her daughter, son-in-law, and grand children, and resided continuously throughout the epidemic on Constance street. Her son, Mr. Was-

sen, who resides at 258 St. Andrew street, and who nursed the Cavens, was attacked with yellow fever on the 31st of July, about fourteen days after his exposure to the fever on Constance street; his daughter Bertie, age two years, on the 29th of August, and his eldest daughter Carrie on the 28th of September. Such facts illustrate the difficulty of determining the exact incubation period of yellow fever.

Mr. Caven was attacked with yellow fever on the 18th of July; Mrs. Caven also on the 18th, and Garrie Caven on the 21st of July. The cases were well marked, and were characterized by intense pain in the head and back, nausea, vomiting, elevated temperature, jaundice and great nervous and muscular prostration. The entire family recovered.

Mrs. Woods, residence No. 120 Constance street, the wife of Captain Woods, of the steam tug Charlie B. Woods, was attacked with yellow fever on the 17th of July. This was a severe case; temperature 104.5°, jaundice, great capillary congestion, intense pain in head and back, incessant nausea and vomiting, albumen and casts abundant in urine, and on the fifth day the patient ejected some black vomit; tedious convalescence, with great prostration, feeble action of heart and slow pulse; recovered.

TO BE CONTINUED. ]



#### Yellow Fever.

By W. L. COLEMAN, M. D., San Antonio, Texas.

My only apology for again writing upon a subject about which I have no new ideas or facts to present to the profession, is a desire to try and put a stop to the almost universal cry, even from experienced yellow fever physicians, that each succeeding epidemic is a different form of the disease and of a more serious type and more malignant than the preceding one, by calling attention to the few facts which are known in regard to this terrible scourge, and endeavoring to establish them beyond further question. While I went to Memphis actuated by a desire to relieve as many as possible of the suffering people of that afflicted city, yet I did not see and treat as many cases

as other physicians did who were there the same length of time, from the fact that my own health was feeble and I could not endure the physical labor necessary to see so many cases, but more especially, because I desised to see the cases of which I took charge as often as necessary, and to be as minute as possible in my observations of the disease from beginning to end. The result of my labors there has been the discovery of nothing new, either in regard to the nature or treatment of the disease, but a strong confirmation of all the views I have held for years, which I will proceed here to enumerate, reiterating the assertion made in a former paper, that these views are based on facts, which have not and cannot be successfully controverted by the profession.

1st. That the germ which produces yellow fever is an exotic, and not indigenous to any part of the United States, its habitat being the torrid zone, and can be easily transported in various ways.

2d. That it is a *specific* disease, produced by a specific poison, and is as unchangeable in its characteristic symptoms as small-pox or measles, and more easily recognized than either of those diseases in the first stage.

3d. That one attack secures immunity from a second oftener than small-pox.

In support of the first proposition we have positive proof of its importation in the majority of epidemics that have occurred in the United States since its first introduction in 1693 down to the present time, and there is only the least possible negative proof that it ever originated in this country at all. In fact until 1766 there never was any allusion to its local origin, and it was always spoken of as having been imported. Any man of an unbiassed mind, who will read Surgeon Harvey E. Brown's Report on Quarantine, which contains a condensed history of yellow fever from its earliest period, will be forced to the conclusion that the germinal principle of the disease is an exotic, and has always been imported to this country when it prevailed epidemically. While admitting that it does occasionally hibernate and live through our mild Southern winters and give rise to sporadic cases during the succeeding summers, yet I am of opinion that it loses its power of reproduction to such

extent that it cannot give rise to a general epidemic, and that it is impossible for it to become naturalized in this country; so that when epidemics occur in successive years, I am satisfied the importation of foreign germs from an infected port could have been traced each year, if due patience and scrutiny had been exercised. An effort is being made to prove that the epidemic of this year originated in New Orleans from the filling of certain streets and lots with all kinds of garbage, but this will only turn out to be a similar case to the great offal mound of Augusta, Ga., to which was attributed the fearful epidemic of 1839. As in that case, though it had existed for five years without causing disease until persons sick with yellow fever arrived in Augusta from Charleston, so in this it required the introduction of the specific germ from Havana to kindle the flames of that disease. I was travelling with a friend last July, when I met a gentleman of veracity from New Orleans, who informed me that he knew positively that two cases of yellow fever had been taken into the city from the steamship Souder in the latter part of May, and I then predicted there would be a fearful epidemic, and returned home to make preparations to meet it. My prediction was based upon my observations for twenty years of the prevailing wind, the amount of rain-fall and the range of the thermometer. I do not doubt for a moment that this flagrant violation of the laws of hygiene by filling in low places with cart loads of putrefied and decayed animal and vegetable matter, was the cause of hundreds of cases of fever in New Orleans, which have been reported by careless observers as yellew fever; but it is folly to attribute the origin of that disease to any such source, for I am well persuaded that yellow fever is a disease sui generis, and not dependent on marsh poisons, and in no way allied to any of the forms of paludal disease.

While I regret that my labors in Memphis did not furnish me with new and more tangible proofs to sustain my second proposition, that the morbific principle of yellow tever is a specific poison, yet I had examples enough to convince any unprejudiced mind of the utter want of connection between it and malaria in its protean character, or in fact any other zymotic disease; and, until the medical profession recognizes this fact, it

will continue to be the one fruitful source of error in diagnosis, and superficial observers will continue to report every case of fever occurring during an epidemic as yellow fever. I found one of the oldest yellow fever experts in Memphis treating a particular case as a genuine case of yellow fever, when a critical examination revealed the fact that the patient's fever was the result of a simple orchitis. Now, when such lights in the profession make such mistakes in diagnosis, what may not be expected of the smaller fry!

I treated about two hundred cases in Memphis, and of that number twenty-five or thirty were bilious and intermittent fevers, which I pronounced so on my first visit, and the result proved my diagnosis correct; and I contend the difference between the fevers is so great, and the characteristics and symptoms of yellow fever so uniform, that there is no excuse for a mistake in diagnosis by any one who has had experience in the treatment of the diseases. While I agree with the celebrated LaRoche, "That the two diseases (yellow fever and intermittent fever) may prevail at the same time and in the same place," yet I cannot agree with his idea "that they also co-exist in the system;" or if they do, one will lie completely dormant while the other runs its course, and they do not affect each other in the least, or do not mix any more than oil and water. I have had numerous cases in this epidemic as well as in previous ones, who were under the influence of malarial poisons, and having attacks of intermittent fever every two or three weeks during the months of August, September and October, and who were finally attacked by yellow fever late in the season, though living in the infected air all that time. From this it would seem that the yellow fever agent has a difficulty of affecting a lodgement in a system already under the influence of the paludal poison, though when it does, it runs its course without interruption, and if the patient recovers, the malarial fever often returns at its regular period.

I had one case who had a violent attack of erysipelas of the face and arms, and when it was at its heighth, the yellow fever was ushered in with a chill, and in twenty-four hours all symptoms of the first disease had disappeared, except the desquamation which usually follows. The tever ran its course, and

after eight or ten days, when the patient was convalescing, the erysipelas reappeared and finished its course. This would seem to prove that the two poisons did co-exist in the system, but I believe the yellow fever agent is the most potent of all the blood poisons, and when it enters the system in fermentation, all others are held in abeyance.

Now in regard to the diagnostic symptoms, there are some which give the disease its distinctive, specific characacter. The primary action of the morbific principle is on the heart, causing an enfeebled action of that organ, not observed in any other fever, which is shown by a diminution in the number of pulsations almost from the very beginning. It is almost impossible to convey by words a correct idea of the peculiar characteristics of the pulse of a yellow fever patient to one who has never felt it, but when one has once become familiar with it, it is never forgotten; just as it is impossible for a swimmer to impart to another the peculiar motion which enables him to swim, and yet when a person has once learned to swim, he is surprised at the simplicity of the act and never forgets it. From meeting with so many cases of malarial fever in Memphis, I accustomed myself, on going to the bedside of a new patient, to make my diagnosis entirely by the pulse, before making any further examination or asking any questions, and in every instance it was confirmed by a critical examination. So reliable is this peculiar pulse, that I confidently believe I could go into a hospital blindfolded and pick out a given number of cases of yellow fever patients from a number of all other kinds of fever.

But the thermometer affords us another means of diagnosis which is equally valuable, and it is this, that while the pulse reaches its acme at the very outset of the disease and begins slowly to decline, the temperature is on the increase. This I have confirmed in more than a hundred cases, and have frequently seen patients with a temperature from 104° to 105° on the third day of the disease, while the pulse was only 80 or 90; so that a diminution of the number of pulsations is not an abatement of the fever, for it nearly always occurs during the increase of temperature. This decline of the pulse fre-

quently continues till it reaches 40, with a temperature still above the normal point, and in no other fever have I observed this condition that, while a high temperature is maintained or on the increase, the pulse is declining.

A close observation of the course of the pulse and temperature is not only necessary for a correct diagnosis, but is also very valuable as concerns prognosis. If, after they begin to descend, they both stop, and especially if they both ascend again, the medical attendant may confidently look for capillary congestion of some internal organ, or some local inflammation externally, as a phlegmonous abscess or parotitis, which was very common in Memphis. If, in their descent, the pulse alone begins to ascend, and the temperature continues to descend, I regard the danger of the patient as imminent, though I have had some few cases in which I observed an increase of temperature just before death.

For the purposes of prognosis, I divide the effects of the morbific agent on the heart as follows: In mild cases (and they constitute about half of all cases occurring during an epidemic) we find the pulse continually decreasing, until it reaches in many instances far below the normal point, when it again slowly ascends till convalescence is established; in grave cases its decrease is nearly always checked by the internal congestions or external inflammations mentioned above, and, unless they are speedily relieved, death will be the result. In all fatal cases observed by me, the pulse steadily ascends until it often becomes too rapid to count. These are not new ideas to those members of the profession who have studied the disease critically. If I mistake not, Dr. Faget wrote an essay on the "Type and Specific Character of true Yellow Fever" several years ago, in which he elaborately described these peculiarities of the pulse and temperature; and while in Memphis, I kept an accurate diagnostic record of the pulse, temperature, urine, &c., in a hundred typical cases, and my observations are simply a confirmation of his. But I object to his term, "true yellow fever," for I deny that there is any spurious, and this is the point I have been laboring for years to establish, that, as yellow fever is a specific disease, it does not and cannot mix or mingle with any other disease, but it preserves its specific characteristics under any and all circumstances.

Dr. J. G. Hava, in an article published in the New Orleans Democrat, revives the vexed question concerning the epidemic of 1873 in Shreveport. Now, if that was not yellow fever, then we had no yellow fever in Memphis this year, and there is no such disease. The same Mexican theatrical troupe, to which he attributes the introduction of the disease, and which he calls typhus, had their tent raised for an exhibition in Calvert, Texas, on the day on which the disease was declared epidemic, but it had been in the town for three weeks previous to their arrival, having been brought there by a young man from Shreveport, whom I treated, and whose case presented from the beginning all the characteristic symptoms of a typical case of yellow fever. There were some four hundred and fifty cases in all in Calvert, and there was not a single case among a large number of persons who were known to have had yellow fever at other points. Why, if this was typhus, the exemption of those parties? This statement can be verified by as many credible witnesses as may be desired; and, according to my recollection, not a single person escaped having the prevailing disease who had not had yellow fever previously. Dr. Hava cites the case of a young shoemaker who was sick with fever in Shreveport in 1873, and who died with yellow fever in New Orleans this year; but that is no proof that the prevailing disease in Shreveport that year was not yellow fever, for there were bundreds of cases of fever in Memphis this year, as I suppose there were also in New Orleans from his account, which were treated and reported by physicians as yellow fever, and were not. The profession are prone to report all cases occuring during an epidemic as yellow fever, and this want of critical diagnosis frequently results in much harm, for I treated several persons this year who remained in Memphis simply because they had been assured by their physicians that they had had yellow fever in a previous epidemic.

Prof. T. S. Bell, in a series of articles which appeared in the Louisville Medical News in August, bases his diagnosis entirely upon the condition of the urine as to albumen, the epithelium of the bladder and tube casts; but I must say, with all due defer-

ence, that it will take an observer of more extended experience in the treatment of yellow fever to establish his positions, than one "who has simply treated a few cases of the worst forms of the disease in Louisville, and walked without the least fear of catching it through the quarantine grounds of Staten Island, Brooklyn Heights, and the vellow fever districts of Philadelphia." Such a one can form no conception of the completeness with which the yellow fever germ fills the air of an infected city; and I will guarantee, if Dr. Bell had spent last summer in Memphis, the fever would have caught him in spite of all the "alkaloids of cinchona" he could have taken. I make this statement from the fact that, out of forty-four unacclimated physicians who went to Memphis only one escaped having the fever, and nearly all of them were taking quinine or some other prophylactics. I treated one medical gentleman from Indiana, who informed me that it was the teachings of Dr. Bell that had influenced him to risk his life in Memphis, and he went there feeling perfectly confident that he could prevent the fever by taking quinine. He had been taking twenty or thirty grains every day up to the night on which he was stricken, and might just as well have taken so much water. Professor Bell labors to prove that the poison which produces yellow fever and intermittent fever is identical, but the only resemblance I have ever seen between the two fevers is in looking over this list of physicians. I find that the period of incubation in the greatest number is seven days; in the next greater fourteen, and in three twenty-one. He handles Dr. Henry Smith's "live germs" or "army worm" theory without gloves; but, if he will carefully look over the history of the past epidemics, he will find that he was just a little too fast and that every position he took was upset by its course. He praised the people of Holly Springs for their noble humanity in throwing open their doors to the refugees from Grenada; but his article was hardly in print before they were in as bad a fix as the people of the latter place. He said that in no part of the country where Memphis stands could it be found, except in the town; yet it is well known that it spread for miles in every direction, and to all the towns on the different railroads, except one or two that maintained a strict quarantine.

He expatiated on "the law of latency" in vellow fever; but I am inclined to the belief that, in the great majority of cases where refugees flee from infected cities, they carry in their clothing, hidden away in their trunks, a detachment of these "army worms," fomites, germs, or whatever else the materies morbi may be. Upon opening them, after reaching what they suppose to be a safe retreat, they get a fresh dose of the poison. I know of an instance in which the germ was preserved for two years in blankets packed away in a bureau, and the parties who opened them after that lapse of time contracted the disease and died. The morbific principle of yellow fever acts with astonishing rapidity, when it once effects a lodgment in the human system; but, as is well known, there is a great difference in the power of resisting not only this, but all other poisons in different constitutions. Numbers of persons took the disease after being in Memphis only fortyeight hours, while others remained for weeks and weeks before they were stricken, and some few escaped altogether. I passed through several epidemics myself before I took the fever, and am not now susceptible to the influence of marsh poison, at least to the extent of producing malarial fever.

It remains yet for the profession to prove that Dr. Smith's theory is false, but the result of this epidemic clearly shows that Prof. Bell "assumed, without the shadow of proof," far more than Dr. Smith did. These criticisms are made in no captious or unkind spirit, for the object of all our investigations and writings should be a desire to elucidate the truth in regard to this fell destroyer, about which the profession has been so long at sea, and about which so many different and diverse opinions are held in regard to its nature, diagnosis and treatment. So divided are professional men in their opinions, that the people have almost come to fear them; and hundreds of non-professional persons, calling themselves yellow fever nurses, take advantage of this confusion in every epidemic, and treat patients on their own responsibility. It is to be hoped that the Howard Medical Society, organized in Memphis, will become a permanent institution, and that the Howard Association will, in the future, only employ acclimated physicians and nurses, for the great mortality in Memphis

was undoubtedly due to the number of physicians and nurses. there who had never seen a case of yellow fever before. It was truly noble in them to thus fly to the aid of that afflicted people; but it was unwise in the extreme, for they were only adding fuel to the flames, as they were all stricken down in a week or ten days, and more than half of them lost their lives. But it is still more to be hoped that, in spite of Dr. Bell's bitter opposition and the opposition of all other physicians who contend that the yellow fever germ cannot be transported, the movement inaugurated by Congress will result in a quarantine that will preserve us from an invasion of this "army worm" fever for all time to come. I would, however, modestly suggest, that possibly more good could be accomplished and a less expensive plan and one that would interfere less with the wheels of commerce be adopted, if Congress, conjointly with other civilized nations that are interested in the matter, would appoint a commission of yellow fever experts, furnish them with all necessary means, instruments and appliances, and send them to the West Indies, the fountain head of this poison, where the disease is even now prevailing, and let them spend a year, or more if necessary, in studying and investigating it in all it sphases in its native home. Possibly such a commission might be able to discover what "the one thing ne dful" is in the atmosphere, which enables this germ to exist and to propagate itself to such an extent as to produce a fearful epidemic one year, and fail another year in the same place. Such we know is frequently the case in the history of yellow fever, and there must be some cause for it which the physicians of the nineteenth century ought to be abie to find out.

I do not think it necessary to spend much time on the thirp proposition, for I believe it is generally conceded to be true by all physicians who have had much experience with the disease. If I had not been so firmly fixed in my belief that it was, I would have hesitated long before going to Memphis, for experience proves that I should have risked my life, and been only an expense to the noble Howards, had I been liable to a second attack. But I will adduce a few facts which this epidemic has furnished, to establish it more firmly; for I fre-

quently meet with persons, both in and out of the profession, who believe the contrary. There were twelve volunteer physicians who went from Texas to Memphis; nine had had the fever before and escaped, while three had not, and they took it and died. Out of forty-four unacclimated physicians, from different parts of the United States, only one escaped having it, while out of forty-eight nurses who accompanied Major Walthall from Mobile, forty-six had had it previously and escaped, while two, who were unprotected by a first attack, had light cases and recovered. So it was with all the other delegations of physicians, nurses, telegraph operators, &c., from all parts of the country; those who had had a previous attack escaped, while but few of the unprotected did, and from an observation of more than twenty years, I have yet to find a single well authenticated case of second attack. The number reported only shows the carelessness of physicians in their diagnosis; and, were it not that there is such a diversity of opinion in regard to treatment, this carelessness would be criminal.

While I regard calomel and quinine as poison to a yellow fever patient, many distinguished gentlemen in the profession depend upon them as their sheet anchor; but I am thoroughly convinced that we have discovered no antidote or abortive treatment for the disease, and, since I have abandoned the use of powerful remedies, have had far better success with the expectant method. I do not, however, intend to enter on a dissertation upon the treatment, but will content myself by mentioning a few of what I consider the most important points in the management of a yellow fever case. First, move the bowels as early as possible in the disease, with a mild laxative or an enema of tepid water, and then let them remain quiet until the fever has run its course. Second, keep the patient perfeetly quiet in a horizontal position, and let him see no one but his physician and nurse. Third, avoid giving anything that will offend the stomach; and, if there is nausea, try to relieve it by the free use of rubefacients, and if necessary, by a blister. Fourth, keep the feet warm and the head cool, by applying bottles of hot water to the feet and iced eau sedative freely to the head. Fifth, allow the patient as much ice as he desires, and

use diluents freely, consisting of warm teas, flaxseed water, lemonade, not or cold, to suit the taste, and keep a strict supervision over the condition of the kidneys. While medicine is needed in a great many cases, yet I feel confident too much was given in the past epidemic.

Before closing I wish to refer to the course pursued by the people and authorities upon the outbreak of every epidemic. It would seem that they lose all the common sense they ever possessed, and do everything they can to aid the invader in its course. In 1873, in Calvert, the bedding upon which the first case died was thrown upon the top of a low building at the foot of Main Street, and lay there for three weeks in the sup, and the course of the disease could be traced from that point in the direction of the prevailing wind. In Memphis the Board of Health issued an order for all the bedding upon which yellow fever patients died to be burned in the streets, and this was kept up till the middle of September. Was there ever a more i saue act of vandalism perpetrated in a civilized community? It deprived hundreds of poor families of bedding, and, if it had not been for the noble charity of the whole country, there would still be immense suffering in consequence. I saw one family myself consisting of eight members, two of whom were sick, with only one mattress left; and Dr. Mitchell stated that he had a case of a poor family, where the man and wife were both sick in one bed, and on a certain night the man died, and on making his morning visit he found the woman on a pile of rags on the floor, the police having taken the mattress into the street and burned it. A moment's reflection on the part of those who issued that order would have convinced them that, before the heat became great enough to destroy the germs, the greater portion of them would have been carried up by the heated air, and they would come down at some other point and become another focus of infection. This was undoubtedly the means by which the fever was spread throughout the city of Memphis into the suburbs and surrounding country. In a similar manner it was disseminated through the city of Norfolk, Va., in 1855; the first few cases occurring in an old building which the Mayor ordered burned at the expense of the city, and in fortyeight hours the fever broke out in different parts of the city. notably in the direction the wind blew from the burning building.

If this terrible scourge should again visit any of our cities, it is to be hoped that no such acts of folly will ever be perpetrated by those in authority; and, since we possess no reliable disinfectant, or other means of checking its course, let us strive to profit by the lessons of the past, and do nothing at least to aid its spread.

# Remarkable Fecundity.

Reported by W. H. WATKINS, M. D.

The following incidents in the married life of one of my patrons will probably interest the profession:

Miss M., a native of Ireland, aged — years, of fine physique, stout and ruddy, was married to Mr. M. on the 14th of January, 1874. On the 24th of November, 1874, she was delivered of twins, large and living. In March, 1875, she miscarried a three months' fœtus. On the 11th of June, 1877, she gave birth to a full-term female child. On the 20th of January, 1879, attended by Mrs. Voss, a midwife of extensive experience, she was safely delivered of triplets, all alive, two girls and one boy. Mrs. V. thinks that each had special sacs; two of the placentæ were intimately joined. The third placenta, that of the male child, was separate. The first child was born at 1, P. M. The second was born at five minutes to 6, P. M. The male child was delivered fifteen minutes later. The children are not much below the average size, are fat and well formed. The mother and father are doing as well as can be expected.

# Louis Genois on Dialysed Iron.

. Notwithstanding all that has been written on the subject of Dialysed Iron, there would seem to be wanting more explicit and minute directions, in order to bring it within the means of every pharmacist to prepare it, and it is with this object in view that this paper is written.

I will take it for granted that the subject is deemed sufficiently important to merit the attention of those interested; that it is destined to become the most popular of all iron preparations, and that it will entirely supersede the now favorite tincture of chloride of iron, I have not the least doubt; and moreover, believe it to be a matter of only a short time. Its superiority over them all consists in: its freedom from acidity when properly dialysed; its negative action on the enamel of the teeth, and in that it does not exhibit a tendency to constipate the bowels; also its tastelessness and the ease with which it is borne by the most delicate stomachs, and besides the additional advantage of being an antidote to poisoning by arsenic, which fact alone renders it worthy of the highest consideration.

It has been held as questionable by some eminent authorities that iron was of any benefit to suffering humanity; some have made the sweeping assertion that it is actually harmful in all classes of diseases. However that may be, I would not of course presume to determine, but where it is deemed as necessary by the physician, then would I recommend the dialysed iron as the most eligible form to administer it in; for it is in that state that it exists in the blood, and suggests itself as the most appropriate. It is now fully seven years since I made the first lot of it in the establishment of Messrs. Frederickson & Harte, of this city, and although it was extensively distributed by them under the name of liquid oxyde of iron, it was not until it had received the more pretentious and high sounding title of dialyzed iron that it began to stimulate the attention which it was entitled to.

The frequent allusions in many of the journals to the "apparatus" necessary to prepare it seem to have discouraged many pharmacists from making the attempt, but it is a very simple operation, and can be successfully managed by any one, no matter how unskillful. The first step is to procure a dialyser, but as there are none to be bought it has to be made; it may be of glass, wood or tinned iron, but for obvious reasons the former answers better. Take a glass ring jar, such as are used by confectioners and druggists, of the capacity of say two gallons—a cracked one will do as well; run a burning charcoal pencil circumferentially immediately under the first

"ring," blowing against the pencil in the meantime either with the mouth, or better, with a double bulbed atomizer, until the fracture is complete; the detached part is the dialyser, and the rough edges may be smoothed with a file. Select a piece of good parchment paper, free of holes, and tie it over the dialyser, bringing the edges of both together; this, with a good brass-bound tub, two or three inches wider than the dialyser, comprise all the necessary apparatus.

Now take of the solution chloride of iron, U. S. P., 12 troy ounces; water of ammonia, 16 troy ounces. Mix the iron with five, and the ammonia with six times their respective volumes of water, and mix the resulting liquids; collect the precipitate on a strainer and wash it with water until the washings cease to render a solution of nitrate of silver turbid, then express it to free it of water as much as possible; then put it in a capacious mortar and add gradually twelve ounces more of solution of iron, triturating meanwhile until it is entirely dissolved; now pour the solution into the dialyser and immerse the latter in the tub containing pure water, using three gallipots for supporting it. The water should reach to an inch above the bottom of the dialyser, and must be changed at least once every twenty-four hours until it no longer strikes a blue color with a solution of ferrocyanide of potassium, nor renders a solution of nitrate of silver cloudy, when the dialysis should be stopped.

The now dialysed iron is to be poured out and made with the addition of distilled water, if necessary, to measure half a gallon, which will make it correspond to about five per cent. of chloroxyde of iron—the exact amount may be ascertained by mixing a small quantity of it with diluted ammonia water, which will precipitate peroxyde of iron, which must be washed, dried and weighed and the percentage calculated.

When imperfectly dialysed, it exhibits a tendency to gelatinize, which renders it unfit for medicinal use.

# Proceedings of New Orleans Medical and Surgical Association.

Report of Special Committee on Yellow Fever and the best Measures for Preventing its Recurrence in New Orleans.



#### REPORT OF COMMITTEE.

In view of the efforts now being made to establish either a system of absolute non-intercourse between New Orleans and the West Indies, or a quarantine so restrictive in its laws as to virtually suspend all business, systems which have only existed during barbarous ages, which have been abolished by the good sense and practical knowledge of civilized nations, and which to use the words of John Simon, are but "paper plausibilities," we, the members of the Medical and Surgical Association of New Orleans, in order that our own people and the people of this country (at large) may not be misled by our silence, thus taking it as an endorsement of these schemes as proposed, deem it proper to come forward and enter our protest against such measures and to suggest such means as we believe can alone render New Orleans a healthy city and free it from epidemics of yellow fever.

We believe that yellow fever is a specific disease, depending upon a specific cause, originally an exotic, now domesticated, and does not need a fresh importation either to produce sporadic cases or epidemics of yellow fever. This being our conviction, strengthened by the fact that quarantine has never prevented sporadic cases or epidemics of yellow fever, nor ever will do it, we protest against the present system of quarantine or any one similar to it, or absolute non-intercourse, and can only endorse such a system of rational quarantine as shall cause least interference with our commercial relations and afford at the same time all the possible protection we can expect.

We believe that sanitary measures are of the most importance, but are the most neglected. After every epidemic committees have been appointed to investigate the causes of disease; their reports constantly speak of the terrible condition of the city in regard to sanitary matters. For the present year, the admirable report of Dr. Joseph Holt will serve as an

example. All the records, from that of Dr. Fenner, in 1846, to those of the present year, lead to the almost certain conviction that the disease is endemic, and not imported, depending on certain ill understood climatic conditions and certain well understood defects in sanitation; but the result was and we fear will be always the same, no improvement in regard to hygiene, but stricter quarantine. The sanitary condition of New Orleans for years past has been, and even at the present day, is so defective, that we are surprised that not only yellow fever, but other pestilences, do not exist all the year round; but so great is the force of habit, that some of the inhabitants have declared that filth was healthy and should not be disturbed. What will the people of this country say when we show them that New Orleans, with a population of over 225,000, and an area of many square miles, has only a few paved streets; the rest are mere mud pathways impassable to vehicles after a heavy rain, and composed largely of the filth and garbage of the city.

The drainage of the city, if it can be called by that name, is so bad, that after a heavy rain, most of the rear and some of our principal streets are overflowed. Many of the lots are lower than the streets, and water naturally accumulates in them, and staguates. The privies of the whole city are so badly constructed that mechanics and sanitary officers have stated that none, after having been built for two years will retain their contents, but are in constant communication with the ground water, so that we can safely say that the whole city is one vast cesspool, and has one privy in community. drinking water we use that stored for months in cisterns. which are rarely if ever cleaned; the impurities therein contained need no microscope for detection, and when a drought occurs, which is not infrequent, the masses have no water for drinking or ablutions, except what is obtained from the gutters, which in such seasons are filled by the fire plugs-these gutters probably not cleaned for weeks or months.

The law prescribes that the offal and garbage of the houses shall be placed in a barrel or box in front of each house, and shall be removed before 10, A. M. In many of the streets it

remains for days and weeks, and when removed is simply carted a few blocks away, and deposited to fill a hole in the middle of the street, or a lot of ground in the heart of the city. This was especially conspicuous during the past summer, notwithstanding the repeated complaints of the Board of Health.

Our levees, as every one knows, are in the same miserable condition, filled with refuse and decomposing dejecta of all kinds, tainting the entire city.

We therefore recommend as absolutely necessary

- 1. Proper drainage, underground sewerage, and the total abolition by law of the present system of privies.
  - 2. A copious supply of pure water.
- 3. Paving of all the streets, and the filling up of all lots with river sand or gravel, these to be raised above the level of the street.
- 4. That instead of the present system of depositing the filth and offal collected by scavengers in the middle of the street, in empty lots, or in the rear of the city, the authorities shall have all such filth and offal thrown into the current of the river, below the city, by proper barges, such as are at present used by the vidangeurs of the city.
- 5. We especially recommend the taking of all proper measures with regard to the sanitary regulations of our graveyards, and such improvements in the system of burial of the destitute poor by the city as will prevent the nuisances and scenes which were described in the report presented by Dr. Holt to the city authorities and to the Board of Health in March, 1877.

F. LOEBER, M. D., THOS. LAYTON, M. D., I. L. CRAWCOUR, M. D.

#### APPENDIX "A."

Taken from the Annual Report to the Board of Health for 1878, by JOSEPH HOLT, M. D., Sanitary Inspector of the Fourth District of New Orleans.

#### LOCUST GROVE CEMETERY.

The Locust Grove Cemetery, or Potter's Field, is one square of ground, in which are buried the pauper dead of the entire

city; formerly located on Sixth street, between Locust and Freret streets.

Having been used for many years, the same graves were made to receive the bodies of many dead—as many as six occupying a single grave!

I, myself, making an inspection, witnessed the burial of a corpse. The grave was prepared by uncovering a coffin, opening it, raking the bones together and throwing them out, breaking up and prizing out the old coffin, and depositing the new in the mould of the former.

When laid in its uncertain resting place, the lid of the box, like that of the one preceding, was two inches below the surface of the earth. To hide it, the earth formerly removed was piled upon the coffin in a mound about two feet high.

In this covering, I counted the skulls of three former occupants, besides observing other bones innumerable. So filled with bones was the earth as to make the use of the spade extremely difficult. Another coffin lid, warped by the sun, displayed in hideous reality the body of a poor wretch who had died a few months before; the stench was disgustingly perceptible. The whole surface of the ground was strewn with ribs and small bones, like pebbles upon the hills. Here and there huge thigh bones served as head and foot stones to the unknown dead.

The citizens living in the vicinity presented a petition to the City Council, March 13th, 1877, wherein they set forth in the strongest terms the horrible facts relative to this graveyard. How that in the summer season the stench from human bodies pervaded their homes; that whether eating or sleeping, in doors or out, they were ever in an atmosphere heavy with exhalations from the dead. They pictured the disgusting sights presented and forced upon the gaze of themselves and of their children.

They referred to their pitiable condition during an epidemic, when the putrifying dead were piled in heaps under a blazing sun, awaiting burial, and the over-burdened earth reeked with rotting human flesh, while clouds of flies swarmed back and forth upon the graves and upon their tables!

They urged in their prayer their constant dread of the infectious and pestilential diseases, whose victims were brought from all parts of the city and buried in their midst, hardly covered from their gaze.

Requested by these people, and having made repeated inspections, I appended to their petition my official report, declaring this graveyard an outrageous nuisance. First, as a sanitary violation of the most serious kind; not only prejudi. cial to the people of the immediate neighborhood, but dangerous to the entire city, inasmuch as, the bodies of those who had died of infectious diseases were brought from one end of the city to the other, through densely inhabited quarters, to be buried here. The festering dead, in loosely made coffins, and in open wagons, were brought from the small-pox hospital on Elysian Fields street, at the lower end of the city, oftentimes a loathsome mass of flesh, melted down by confluent small-pox, trundled along slowly through narrow streets crowded with unsuspecting citizens, the way through the middle of the city, almost its entire length. A wagon load of those dead of small-pox and other diseases, sometimes hauled to this place late in the evening, or after nightfall, and dumped for interment the next day.

Second, as a violation of the plainest laws of humanity and instinctive decency, in the infliction upon the helpless, of such loathsome sights and disgusting smells. The neighbors assured me that hogs repeatedly made their way through the picketed fence, and even declared to me that they had been known to root up the dead out of their graves, and to revel in their carcasses the livelong night, filling themselves with human flesh, to fatten on it. Whether this statement be true or not, it is certain they were frequently in this graveyard, and the coffins, sometimes not below the level of the surface, were often made bare by the rains.

Adding danger to the disgusting features of this horrible picture, the boards of coffins broken up as described, were in constant demand to be used as fire wood, for cooking, and for the construction of yard fences, by certain degraded whites and negroes in the district.

Third, the injury to the people in the depreciation of their property in value.

I earnestly recommended the selection of a site for a Potter's Field in the neighborhood of the cemeteries, far in the rear of the centre of the city, out of sight of habitations, and directly approachable from all parts of the city, without having to traverse its length.

The City Council was about to establish a new pauper graveyard.

This petition, numerously signed, was presented at the City Hall.

And, as it ever is with the prayer of the poor when they cry out in their affliction, their supplication fell muffled upon the dulled ears of rulers fattened with brief authority; and when they looked for judgment, behold oppression!

The petition itself was buried in the needy man's official graveyard, a pigeon-hole, no special record nor account taken of it.

A square of ground, however, was at once selected immedidiately adjoining the first.

This is now the Potter's Field; a low marsh wherein the sexton performs his heavy task faithfully and as best he can; sometimes floating to their graves the dead and weighting them into their homes, the whole graveyard being often a foot under water. The nature of his field renders it impossible for him to dig these graves deeper than has been his habit.

But this is Potter's Field—an injurious infliction and an outrage upon the living, a disgrace to our humanity, to our morals and to our city, an indecency perpetrated upon the dead because they died poor.

### YELLOW FEVER.

A Paper by Dr. Jno. Dell Orto, read before the New Orleans Medical and Surgical Association.

#### MR. PRESIDENT:

Though we have to be grateful to our respected confrêre, Dr. Holliday, for the active part he is taking in this subject, I am afraid he is preaching in the desert. According to what I have



read in the Northern newspapers, I firmly believe, that very soon a law of quarantine, based on the principle of absolute non-intercourse for six months of the year, as proposed by Dr. Choppin, will be adopted by the Congress and Senate of the United States. Nevertheless, it is the duty of the physicians of New Orleans to let the people know their opinions, and to use their best efforts in order to prevent the passage of this law. But should it pass, what shall we do? This is the object of my paper.

Before entering into the merits of the question, allow me, gentlemen, to read you a few lines on the definition of yellow fever, which I have translated from an article published in the *Cronica Medico-Quirurgica of Havana*, by one of the most distinguished physicians of that place, Dr. P. Selsis. This gentleman has seen and studied the disease in several localities of the Island of Cuba since 1857; he keeps now a private hospital at Havana, where almost every day cases of yellow fever are entered; so that his name may be considered by us as an authority.

## WHAT IS YELLOW FEVER?

He says: "To a physician who assists without any preconceived idea in an epidemic of yellow fever, it appears clearly, that this disease is the consequence of a poisoning caused by certain principles suspended in the air, and introduced into the economy through the respiratory organs:—principles which can be more or less modified, both in their quality and quantity, by meteorological and electrical phenomena, such as the diminution of ozone at certain periods, etc. This explains the variety of symptoms, and the different modifications, which we observe in every epidemic. Several physicians believe that the principle of yellow fever is a paludean miasma analogous to that of intermittent fever; and, from this idea to a paludean malignant, there is but one step. So yellow fever has been called by those gentlemen a malignant malarial disease.

Though we also believe in a *paludean* miasma, we are not of the opinion, that it is identical with that of intermittent fever, for the following reasons:—the intermittent symptoms are the exceptions in yellow fever; the action of the electrical phen-

omena so strong in yellow fever epidemics, is not to be noted in intermittent fevers; the hepatic symptoms are the exception in the intermittent fever, and the rule in yellow fever. The presence of albumen in the urine, the great mortality in yellow fever, and its more limited localization, are evident proofs against the identity of these diseases.

We believe in a miasma, which we will call that of localization, or sui generis, caused by the special decomposition of vegetable and animal matters, in contact with fresh and salt waters, and under a constant high temperature—which decomposition is a great deal more active, than the one which causes the paludismus of intermittent fever. But it is required that this work of decomposition be under the influence of certain telluricometeorological and electrical circumstances, which deeply modify the phenomena, and give rise and force to the poison of yellow fever.

In the Island of Cuba we are constantly in contact with both miasmas, so that in many a case of yellow fever, we see both miasmatic effects coincident in the same patient, the continuous one with its pathognomonic character, and the intermittent one presenting symptoms varying from the simplest to the most pernicious.

Yellow fever is not contagious. It has its cause in the absorption of a poisoned atmosphere peculiar to certain localities, and under meteorological influences, which a person sick with the disease cannot create around himself. Yellow fever is not confagious, but it can be transported by the air, which contains the miasmata and is capable of causing symptoms of yellow fever in persons, who breathe this air."

Do not you believe, gentlemen, that these words may be applied to New Orleans? For my part, I am willing to subscribe to this theory until I find a better one. My conviction is that the yellow fever of New Orleans is the same as the yellow fever of Havana, with only this difference, that we do not have an epidemic every year, because we do not have every year that constant high temperature and those meteorological influences, of which Dr. Selsis speaks.

Was the yellow fever of 1878 imported from Havana? Let

1879]

us answer, for the sake of argument, yes. Then the consequence is, that if we had had absolute non-intercourse, there would have been no fever; then the city of New Orleans, if we want to be logical, would have been this summer as healthy as any other city in the Union, for instance, as it was last year.

Gentlemen, if I were obliged to come to such a conclusion I would quit the practice of medicine, because I could not believe any more in science, in those changes in the atmosphere that we notice every day as causes of so many diseases; in the beautiful modern theories of ozonized and deozonized air, and finally in that mysterious quid divinum that our father Hippocrates used to find in the air, and to which he could not give a better name. I say that I would quit the practice of medicine should I be obliged to attribute the cause of all our misfortunes only to that poor steamer, which landed here on the last days of May, after having been thoroughly disinfected at the quarantine station.

The disease we had this summer, call it yellow fever, or something else, whether imported or not, became an epidemic; because, allow me the expression, we had an epidemic atmosphere, there was everything in it that is required for the development of the malady; excessive heat, excessive dampness, both by day and night, whether it rained or not; the weather was hot; the weather was damp, wet, heavy, We can affirm, that from the middle of May to the middle of September, we have been really living as in a tropical climate, without the benefit of those thunder storms and succeeding pleasant nights proper to those regions and so necessary for the purity of the air and for the enjoyment of good health. Now, if we add to these causes the miasmata which arise every year, and in certain seasons more than in others, from the swamps, and undrained and stagnant places by which our city is surrounded, we will have sufficient reason to find in them the explanation of the direful epidemic we have just passed through.

Why should it not be so? Every year we have cases of imported yellow fever; every year we see people dying of yellow fever in this city—why do we not have every year an epidemic?

From 1867 to 1878 the Valley of the Mississippi has been visited by several epidemics of yellow fever. Happily they have been limited to certain localities; but I do not see any reason why we should not call them epidemics. In 1870 the foreign population residing in the Second District of this city, was severely scourged by yellow fever; about seven hundred persons died in less than ten weeks, out of which one hundred and twenty-eight were my own countrymen, and many of them my patients.

I can assure you, that the disease was as malignant as this year, yet, if you except a few scattered cases in the other districts, the epidemic was limited to the second, in spite of an uninterrupted commercial intercourse between all. Remember the fearful epidemics of Shreveport and Memphis in 1873 At that time the quarantine between those places, and New Orleans was not very strict, nevertheless, very few deaths occurred in the city. Why? The Board of Health and the profession in general, in good faith, believed and assured the people that it was due to their disinfecting system. And the people believed it.

Gentlemen, after the experiment of this year, in which disinfection has been tried as profusely as possible, without any opposition on the part of our population, and it was proved a failure, we have to look after some other cause for explanation, and thie cause is to be found in the atmosphere itself, against which, quarantine and disinfections are useless. When I say useless, do not believe that I am opposed to a rational quarantine or to disinfection of rooms, beddings, clothes and premises of a house infected by a contagious disease. I only mean that this work of disinfection of a house or of a vessel, is not sufficient proof in favor of a certain guarantee against the disease, because, by this false belief, certain prejudices may arise in the minds of the people that often produce dangerous consequences. I remember, that at the commencement of July several rumors were going around the city of some cases of yellow fever in the upper district, but the houses had been so well disinfected, that there could not be any danger of an epidemic—and the people believed it. I remember also, that,

when the President of the Board of Health announced that yellow fever reigned in New Orleans, he said, he thought he could control its spreading by the irrigation of the street with carbolic acid, and our population had such confidence in this statement, that that there was no uneasiness at the end of July. They believed, that the city had been spared by the disease so many years, on account of the good system of a strict quarantine and disinfection adopted by our authorities, and the unusually excellent health that prevailed during the summer of 1877, seemed to confirm their belief. They were taught that their children born in the city could not have yellow fever. Why? They did not know it, but they believed it. But when they saw their infants, their boys and young girls dying with symptoms similar to those of foreigners, who die of yellow fever, when at last the fever was officially declared epidemic, in spite of quarantine and disinfection, they were seized by such a panic, as to cause an exodus unheard of in the history of the epidemics of New Orleans; they fled through the woods and swamps to certain death, presenting such strange symptoms, as to make physicians doubtful about the diagnosis. Here is another cause of the spreading of this epidemic, and of its mortality—that was not imported. In the many epidemics that New Orleans witnessed since 1796, there is not a single instance of such a panic. Nobody denies the peculiar malignity of the disease of the last summer, but were the epidemics of 1819, 1822, 1853 and 1858 less alarming? In 1819 there were 3000 deaths in a population of 25,000 inhabitants; in 1822 there were 2000 in about the same population; in 1853 and 1858 the population had increased to a little more than 100,600; the mortality in 1853 was 8130, and in 1858 4631. I am satisfied that many a life could have been saved, had the people been taught to remain quietly at home. I am speaking of those who have no means to travel comfortably. The mortality could have been less, had the sanitary condition of certain dwellings, where the poor classes live, been in a better state.

They say that the germ of yellow fever can hybernate, consequently a germ imported during the summer season may be a cause of an epidemic next year. I do not see the reason why another germ of the same disease, imported during the winter season, for instance, from the 1st of November to the 30th of April, could not cause an epidemic during the immediately coming summer. Then what will be the use of an absolute uon-intercourse for only six months of the year? If those gentlemen want to be logical, and in accordance with their principles, they ought to advocate an absolute non-intercourse for ever, and for every port of the United States. they are really convinced that yellow fever is always imported, such a law must be adopted. Then the question goes out of the field of medical science. Let the people of the United States think of it, and if they are willing to interrupt their trade between their ports, and the ports of the West Indies, Mexico, Brazil, etc., let them do it, and we have to submit to their verdict. But even such a quarantine will not be a sure preventative against the disease—there will always be another importer on the way—that same importer, which carries from one place to another, at the distance of thousands and thousands of miles, the seeds of a plant, or the pollen of a flower— I mean the winds, the air. You cannot separate, gentlemen, the idea of a germ from the idea of a seed plant. Some of the Atlantic ports of the United States are lying in the Gulf of Mexico, in a yellow fever zone, and no National law of quarantine will change this topography.

Meantime, whether this law be adopted or not, we physicians of New Orleans must not be discouraged; we must not cross our arms and wait for another epidemic. Laboremus, said Dr. Layton in his beautiful annual address, laboremus; let us go to work together in good faith and harmony for the welfare of the country; let us work and see whether we can find some better means to save us from another scourge, as far as the imperfection of human nature can reach. But should we be fortunate enough to find some; let us beware of assuring the people that we have in our power the certain preventative of yellow fever. In the vast field of our materia medica I see but two real and certain preventatives of diseases, quinine and vaccinia. Yet, how often are intermittent fevers rebellious

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to our specific? Since the great discovery of Jenner, how many epidemics of small-pox have been afflicting humanity? Certainly the great desideratum of every philanthropist is the disappearance of epidemics from the surface of the earth. Let us hope that the day will not be far off when such an event can take place, as it happened with those celebrated epidemics of the olden times, the pest of Athens and the morbus cardicus which are unknown in our days. But who could tell us when and how? Diseases, says E. Littré, the French savant, change with the time; an unknown law presides over the succession of these phenomena in the life of humanity.

Gentlemen, I do not want to detain you any longer; let us come to a conclusion.

During the last two months I have been following with great anxiety and interest all that has been done in New Orleans on this subject. To tell you the truth, I must say that I was well pleased with the work performed by the Homeopathic Commission. Very valuable papers have been read, such as the one on ozone by W. U. Simons, of the signal corps of U. S. A., and another from Dr. Louis A. Falligant, of Savannah, Georgia. I read in the Times the proceedings of the last meeting—there are several measures really worthy to be endorsed. I must also say, that among the conclusions presented by Dr. Choppin a few days ago at the Fever Commission, there is one which deserves to be taken into serious consideration. It is the fifteenth, which reads:

15. If the several States have not the power of preventing commercial non-intercourse with foreign ports, impose such quarantine restrictions as the unloading of the cargoes of incoming ships, subjecting them to thorough fumigation and purification, with suitable appliances for that purpose at the quarantine stations, and compel the vessels to return to sea without coming to our ports. Their outward cargoes could be taken to them by lighters or barges.

I am of the opinion that this will be a good sanitary measure to prevent a fresh importation from abroad. But in order to be effective, I think it would be necessary that every Board of Health had in its corporation a member belonging to the Federal government. It is only in this way that I understand a a national quarantine. For instance, we cannot deny to any

city in the world the right of establishing in times of epidemic certain rules of quarantine for self preservation; we cannot deny them the right of preventing a railroad train stopping at their stations, but when the question comes of an absolute stoppage through all the lines of an international train, then the general government ought to have the right to interfere and avoid certain tyranical and wild measures, as we have seen this year in several places. The citizens of New Orleans have the right to seclude themselves from the world as long as they please, but they have no right to interfere with the navigation of the Mississippi river without the consent of the general government, the natural protector of international commerce. But a shot gun quarantine ... what does this mean, gentlemen? Are we going back to the middle ages when quiet and innocent citizens were assaulted and asassinated in the streets by a mad, infatuated and fanatical mob crying, "Hell to the poisoners! Hell to the imposters?"

I will conclude with the following suggestions:

1st. If the national government be really anxious to prevent the repetition of another epidemic, it must help pecuniarily our city and State governments in carrying out those sanitary measures which they are unable to do, on account of the great expenditure required.

2d. We are willing to advocate a national quarantine that can prevent a fresh introduction of the disease from abroad, without affecting too much the interest of our international commerce: such a quarantine for instance as that of the city of New York.

3d. The formation of a special commission to study the best system of drainage and water closets. These are the vital questions that have to be resolved as soon as possible. The present condition of certain localities and privies will always be full of disease in spite of disinfection.

4th. To urge upon the next State legislature, in the interest of the public health, a law of expropriation of certain dwellings, which are filthy and uninhabitable, unless the proprietors be compelled to have them rebuilt on certain conditions, to be decided by this law. In 1870 I have seen many people dying

in the same rooms where other unfortunate ones died this year, such as Nos. 35, 37, 39, 65 St. Philip street, 16 Barracks, several places on Decatur and Galatin streets, and many and many others. In those houses no human being ought to be allowed to live, and this can only be done by a special law.

5th. To obtain another law, providing the funds for establishing between the city and the lake in every direction plantations of eucalyptus trees on the largest possible scale. At one of the last meetings of the Athéneé Louisianais I had the honor to make this same proposition. I will suggest now, that the New Orleans Medical and Surgical Association join the Athéneé in making the proper petition to the ext Louisiana legislature, and to the congress of the United States, if necessary. Let us do all that is in our power in order to encourage the cultivation of this remarkable tree, which has proved so useful wherever it has been planted. If such a plantation be successful, I am satisfied that in less than four years our swamps will be dried up, and these lands, which are now useless and impregnated with miasmata, will become a source of health to the city and of profit to their owners. All these measures, gentlemen, have to be taken immediately, because

Salus populi suprema lex.

# CURRENT MEDICAL LITERATURE.

PULVERIZED (ATOMIZED !) SEA WATER.

BY PROF. MONTEGAZZA.

Translated from La Scuola Medica Napolitana, November, 1878,

BY JOHN DEL ORTO M. D.

Pulverized sea water has been in use as a medical agent in the marine baths establishment of Rimini since last year. More than twenty persons at a time are enabled to breathe the sea water, which is pulverized by the air compressed by a powerful steam machine. When the proportions of air and water are well regulated and the pressure is maintained almost constant, a fog is obtained, thick enough to intercept the sight at a certain distance, but not so heavy as to moisten the clothes of the patients. Prof. Mantegazza does not like to cover his patients during the inhalation with an imperme-

able dress, which always has the inconvenience of troubling the functions of the skin by suppressing the evaporation of the sweat; he only requires that their bodies and heads be covered with a light sheet. When the patients are in the room of pulverization he makes them talk and even sing, if the peculiar condition of their health be not opposed to it; in order to facilitate the absorption of sea water, and to add to the topical cure of the good effects of active respiratory gymnastics; at the commencement he allows half an hour of inhalation a day; later, one hour a day; and a treatment of thirty or forty days is generally sufficient.

The first effect of pulverized sea water is an agreeable feeling of excitement which restores the cheerfulness, and revives the appetite, not only in the sick, but also in the healthy people.

The pulverization of water is a very rich source of ozone, to which, it seems, that the exhilarating effects felt by the patients in the rooms of pulverization could be attributed. But Prof. Mansegazza searches for the explication of this phenomenon in the material contact of the particles (atoms?) of salt water with the rich weft of the nervous net of the pulmonary tissue. The chloride of sodium, he says, is a stimulant of many histological elements, and the inhalation of sea water gives an exciting bath to the respiratory and trophic nerves of the lungs. The indirect and consecutive effects of this treatment are a better nutrition, a prompt increase in the weight of the patient, and a remarkable improvement in the most disagreeable symptoms of the chronic diseases of the larynx, of the bronchi, and of the lungs.

Dr. Montegazza recommends this treatment: First, in chronic non-specific laringitis; second, in catarrhal inflammations of the pharynx; third, in chronic bronchites, either with or without dilatation of the calibre of the bronchi; fourth, in tuberculosis of the first and second stage—in caseous pneumonia, in chronic pueumonia of different forms; fifth, in scrofula.

This treatment does not seem to him advisable in those forms of pulmonary phthisis of galloping type, accompanied with strong fever and great irritability of the bronchi; nevertheless, he thinks that in several cases the experiment of these inhalations ought to be tried also.

# ON THE DIAGNOSIS OF ANEURISM OF THE AORTA. By Prof. C. REISZ.

Translated from "Hospitals Tidende," of Copenhagen, September 4th, 1878,

By O. R. LANNG, M. D.

It is well known that the aneurisms on a orta often are difficult to discover—at all events, that they often are recognized only late in the course of the disease, and that they not seldom entirely escape detection. We have, then, good reason to study

the single cases carefully in order to arrive at a more certain diagnosis. I admit, that I have not had any great number of cases of aneurisms on aorta under treatment during the four years I have been in charge of the "Frederik's Hospital." After all, the disease appears to be more seldom here than especially in England—but some of the cases have been very illustrative, and I shall therefore communicate them here, accompanied by some remarks about their diagnosis.

The whole number is seven, when I count a case of aneurism on arteria anonyma, which nearly always is connected with a dilatation of arcus aorta. All the aneurisms were situated on aorta thoracica; I shall for this reason not further mention the aneurisms on aorta abdominalis in the following remarks. To the seven cases I have got to add a case of aneurism on carotis

communis.

The cause of the difficulty in recognizing the aneurisms is well known, the direct symptoms often not being present on account of the deep position of the tumor, that does not touch the wall of the chest, while the indirect symptoms either indicate the presence only of a tumor, but not especially an aneurismatic tumor, or can be missing entirely, when the aneurism is so situated, that it does not come in contact with neighboring organs in such a way that it produces pronounced symptoms, rendering a diagnosis possible. By the direct symptoms, as the result of the examination of the tumor by palpation and auscultation, the diagnosis of external aneurisms is rendered comparatively easy. But these symptoms are as mentioned above, often missing in aneurisms on aorta, as it is impossible to touch or handle the tumor or recognize it as pulsating except when it protrudes against the wall of the chest, raising or absorbing it so that the aneurism, from an internal tumor, turns to be an external one. But such a protrusion of the aneurisms on the aorta can be expected only when the tumor has reached a certain size; consequently, rather late in the course of the disease, or when the aneurism occupies some certain places on the aurta. It is especially the aneurisms on aorta ascendens, at times, but more seldom the aneurisms on arcus (and aneurism on arteria anonyma) that can present themselves as an external tumor, while it happens much more rarely with aneurisms on aorta descendens thoracica. The palpation, which is of such great importance in external aneurisms, has for this reason only a limited value in the diagnosis of aneurisms on the aorta inside the thorax. Fortunately, we are much more often able to use auscultation. Even if the aneurism does not raise the wall of the chest, even if it does not touch the wall, we are often able to hear sounds that are characteristic for the aneurism and morbid complications in the lungs and elsewhere, offering a better conduct for the sounds, may render it possible to hear aneurismatic sounds, even far from the place where they originate; in this way it is possible to hear the sounds in an aneurism on ascus aorta, through interjacent compressed tissue of the lung to a large extent on the posterior surface of the chest, in the left interscapular region, for instauce, and still further down towards the base and in the axilla.

To the direct symptoms belong finally the hæmorrhages caused by the rupture of the aneurisms, whether these happen externally through the wall of the chest or internally into open or closed cavities presenting themselves as hæmoptysis, hæmatemesis or as suddenly appearing accumulations in pleura, pericardium or elsewhere. These hæmorrhages belong as a matter of course to the last appearing symptoms, and as the rupture of the aneurism often is missing, they fail to appear, and even if they do appear, they usually cause death so rapidly, that their importance for a diagnosis is of small value.

When the direct symptoms of the aneurism on the aorta are missing, the indirect symptoms caused by the aneurism pressure upon or irritation of the neighboring organs, must get an increased importance. This is in reality most often the case that the diagnosis has to rely upon these, sometimes through the whole course of the disease and by all means through a long period of the disease, until the tumor raises the wall of the chest. The indirect symptoms may be very numerous, as the tumors may come in collision with many different organs. Pressing upon nerves it produces neuralgia and paralysis; pressing upon arteries or retarding the circulation, it causes the pulse to be different in strength and time on the two sides of the body; pressing upon veins it causes stasis and cedema in the corresponding territory, often with great certainty indicating which vein is compressed and at what point. The symptoms originating from pressure on the trachea, the brouchi, the lungs, are often very characteristic, and render the diagnosis certain in many cases. When we add to these symptoms the rarely appearing compression of parts of the heart—especially the auricles of the heart, and the equally rare compression of the spinal marrow, and when we furthermore add the direct symptoms, we may imagine what a multitude of symptoms the aneurisms on the aorta may cause, how variously the disease may present itself, and how careful and scrupulous we have to be in our diagnosis. And yet we are not done with the enumeration of elements of the diagnosis of the aneurism; we may often by palpation of the peripherical arteries find symptoms of arterio-sclerosis allowing the supposition of a similar condition in the aorta, and sooner or later we may meet considerable disturbances, either in single organs or in the general

It belongs to the province of the text-book and the teacher to discuss more in detail all these symptoms, and indicate their relation to the angurism; here we shall, as before said, examine the single cases we have met with, in order to try to arrive to a more certain diagnosis of the aneurisms on the aorta in general.

As already mentioned, we have since 1874 up to date in my department of the hospital had under treatment 8 aneurisms. of which 1 on art carotis communis, 2 on aorta ascendens, 2 on arcus aorta (one of these might just as well be called anenrisma aorta descendentis, as it was situated on the transition from arcus to aorta descendens, including both), 1 on art. anonyma (with a slight dilatation of arcus), 2 on aorta desc. thoracica. Out of these 5 died in the hospital, 1 is still there, 2 are discharged, but the diagnosis was not to be doubted. All the patients, excepting one woman, were men, corroborating the preponderance of the male sex. In regard to other points in the ætiology may be mentioned, that constitutional syphilis had preceded (Nos. 1, 3 and 4) 3 times, while in 2 cases there might be suspicion about it (Nos. 2 and 7). Many authors, especially English, lay much stress upon this ætiological point. Violent exertions as an accidental cause could only in one case (No. 1) be pointed out distinctly, but might be supposed in one more of our patients (No. 4) who had been in the war and severely wounded.

We may with advantage divide our cases in two classes, as it is especially the diagnosis of the aneurisms we desire to discuss. The first class is composed of the cases where the position of the aneurism is such that the direct symptoms are predominant for the diagnosis; the second class contains those where the indirect symptoms are the pillars of the diagnosis. To the first class belongs the aneurism on carotis communis, although strictly speaking, it has nothing to do with the aneurisms of the chest; it distinguishes itself, besides, by the fact that it may be subject to surgical treatment on account of its position; to the first belong, furthermore, two cases of aneurism on aorta ascendens. To the second class are counted 2 on arcus aorta, 1 on art. anonyma (and arcus) and 2 on aorta descendens; in this class the indirect symptoms are predominant.

#### FIRST CLASS.

Aneurisms, where the diagnosis is made essentially by the direct symptoms.

Any aneurism on any point of aorta thoracica (and art. anonyma) may present direct symptoms, or any aneurism may reach such a size that all of the chest is raised, absorbed, even perforated, so that the aneurismatic tumours may be termed superficial. In this respect the aneurisms on aorta descendens are, however, at a disadvantage, although it later shall be tried, to show that more frequently than the anthors are inclined to admit, these too, may present direct symptoms. Aneurisms on arcus not seldom reach such a size, that palpation in jugulum is possible. But it is especially the aneurisms on aorta ascendens which protrude in such a way,

that they can be felt, and give rise to direct symptoms. The most striking of our observations shall shortly be reported here.

1. Johan T., 32 years old, sea-captain, was admitted December 20th, 1875. Apparently no hereditary disposition. Many years ago he has had constitutional syphilis, of which at present no traces are to be found (before the autopsy). Besides, he has always been well, until two years ago, when being mate on board a ship that sprung a leak on a long voyage, he had very hard work for three months to keep the ship afloat by using the pumps, and he was wet nearly all the time. Immediately after he felt a pain in the chest, but neither did he cough ner was he short-breathed. Four months later a protuberance commenced to appear at the left margin of the sternum in the second intercostal space where, during some weeks, it obtained about the same size it has at present; it never was sore, nor did it cause pain. Some time after the appearance of the bump he commenced to become short of breath, but cough and spitting appeared much later-about five months When the cough had lasted about one month, he had hæmoptysis, while on a voyage from China to London, and every day for nine or ten days he was spitting blood; he says that this blood was dark and not foaming; no vomiting and no epistaxis at the same time. During the last three months he has been in a hospital in London; he has lost a great deal of flesh, did not sweat at night, no diarrhea; his breath has become very short. the examination of the very lean patient demonstrated cavernous phthisis in the right apex of the lung and infiltration in the left one, a detailed description of which is, however, superfluous here. On the left side of sternum is to be seen a deformity of the chest presenting a protuberance corresponding to the sternal ends of 2, 3 and 4 cartilages on the left side; the corresponding part of sternum is twisted around its axis in such a way that its left margin is protruding a little, the right one receding, so that the anterior surface of sternum is turned a little to the right. This whole region forms a protuberance; but, besides, a tumor of the size of a walnut is found prominent between 2nd and 3d costal cartilages; close to the left sternal margin, and between 3d and 4th cartileges is found another, but smaller prominence; it looks like a tumor protruding in 2nd intercostal space, continuing behind 3d costal cartilage, protruding again in 3d intercostal space. The skin is healthy and movable. The tumor is pulsating isochronally with the systole of the heart; the prominences in 2d and 3d intercostal space are easily pressed into the chest, but protrude immediately when the pressure ceases. When the patient is coughing, the tumor in 2nd intercostal space is protruding very much. The tumor in both intercostal spaces giving an indistinct feeling of fluctuation. Percussion is dull, continuing further down into the dull percussion of the heart, rendering a distinction impossible. Ausculting the tumor, two sounds are heard; the first one long and the second one shorter, corresponding to the sounds of the heart, so that actually the tumor's sounds may be considered as a propagation of the sounds of the heart. Ictus cordis is seen and felt in the 5th intercostal space below and a little outside the papilla; the concussion rather strong and extended; the dullness of the heart extends in breadth from the right margin of sternum to the nipple. The sounds of the heart are dull, but clear; first sound, however, a little prolonged. The radial pulse 90, regular, and uniform in strength and time on both sides. The patient having used 32 grammes (\(\frac{7}{2}\)i) acetate of lead during 29 days, the tumor was found essentially changed in size, having diminished to some extent, what he positively claims to notice himself. He got 9 grammes more of this remedy, upon which it was discontinued, because he had some pain in the abdomen, which might be attributed to the lead. He now lost flesh rapidly, became more short of breath; the cough increased, diarrhea set in, and he had some strider at inspiration in the last four days before death occurred; but on account of the patient's moribund condition it was impossible to decide whether a pressure of the tumor on trachea or phthisical processes in larynx produced the strider. Died March

3d, 1878, having been in the hospital for 66 days.

The antopsy, which is reported only partially here, demonstrated a large aneurism on aorta ascendens, the artery 3 centim. above the aorta valves showing an abrupt sack-shaped enlargement, which on its anterior surface formed an aneurismatic excavation approximatively of the shape of a ball and with a diameter of about 10 centim. The tumor had developed itself in front and to the right; it communicated with the artery through an opening of the size of a twenty-five cent piece, the membranes of the artery coatinuing directly into the wall of the tumor, etc. Arteria anonyma issued above the tumor, not being influenced by it. Considerable arteriosclerotic products had been formed as well in the wall of the aneurism as in the neighboring parts of the aorta. Vagus and reccurrens were not touched by the tumor. The heart slack, large (largest breadth 14 centim.), the walls thin, both ventricles dilated, mitral, and aortic valves healthy. The tumor was intimately united with the right lung, especially the lower lobus; in the upper one numerous small caverns and peribronchitic deposits; in the left lung only few peribronchitic products, both lungs retracted. In sternum a deeply excavated place, produced by the pressure of the tumor; in the same way was 3d aortal cartilage, which was ossified, absorbed, etc. In the liver were found retracted scars, which were considered as being of syphilitic origin, etc., etc.

The diagnosis was in this case extremely easy, the aneurism presenting itself with direct symptoms that could not be mistaken; a protroduing tumor, pulsating isachronally with the systole of the heart, a tumor that could be reposed, giving fluctuation—consequently containing liquid—giving dull percussion and on which could be heard two sounds, a first and a second one, isochronal with, and very similar to the sounds of . the heart. The diagnosis was furthermore corroborated by the anamnisis; the patient had had syphilis, and the first sign of his disease commenced a short time after a fatiguing exertion in the shape of a violent pain, followed four months later by the protruding tumor. In this case the way the aneurism has been developed, is very clear. It is well known, that the great tendency the walls of the arteries have to suffer from chronic endarteritis deformans, belongs to the more advanced age, especially after the 45th years, and it is this condition that is the principal predisposing cause of the spontaneous aneurism destroying the elasticity of the wall of the artery and its resistance against the pressure of the blood. But it is characteristic for the aneurisms, that they do not at all appear just in the age in which chronic endarteritis is predominant after the 45th year and upwards. The aneurisms on aorta are found most frequently in the years between 40 and 50, less frequently between 50 and 66 and still later decreasing in frequency; they appear consequently somewhat earlier than the chronic endarteritis. The ages of our eight patients were 32, 58, 54, 51, 49, 57, 58, 45 years. It is for this reason probably, that some other ætiological points then the age only has to do with this formation. English authors point out that besides accidental causes, as injuries, exertions, etc., constitutional syphilis is a disease, that often is found in persons who get aneurisms at an earlier age. I think that we are justified in

supposing, that the constitutional syphilis, from which our patient No. 1 has been suffering, and which has been intense enough to leave numerous scars in the liver, has been a predisposing condition, facilitating a comparatively acute development of an aneurism through a later occurring extraordinary exertion.

However easy and simple the diagnosis was in this case, the

single diagnostic points may need a little light.

By palpation it was recognized that the tumors could be reposed, was fluctuating and pulsating isochronally with the systole of the heart. But not every tumour with the same symptoms when appearing on the chest is an aneurism. Empyemas, for instance, may, under certain circumstances, in perforating give rise to the formation of similar fluctuating and pulsating tumors that can be reposed. It is usually empyemas on the left side, and when perforation takes place near the heart, that the above mentioned collection of symptoms may be found, the systole of the heart comunicating an undulating motion to the purulent liquid, and through this a pulsating stir to the tumor. A mistake may, however, easily be avoided by a stethoscopical examination of the whole surface of the chest, and in our patient a mistake was ont of question, as all signs of empyema were missing. Abscesses too, and other tumors, may have a pulsation communicated from the heart or aorta, which we have to take into consideration in the diagnosis of a pulsating tumor on the chest. The palpation showed furthermore that the tumor was pulsating isochronally with the systole of the heart. The pulsation was single, but at times a double pulsation was felt (as in No. 2), the systolic strong beat being followed by a short second one, identically as in a dicrotic pulse, the second small beat follows the first one, and this second beat of the pulse is in the aneurisms also produced by the regurgitation of the blood from the aorta valves closing during diastole; for this reason the second beat of the pulse is easier felt in aneurisms situated near the aorta valves; consequently, especially on aorta ascendens, less often in aneurisms on arcus and aorta descendens; very seldom it is felt in aneurisms more distant from the centre. By auscultation two sounds were heard, a first one and a second one, similar to the two sounds of the heart and apparently as if it were the very sounds of the heart that were communicated. This is by no means the usual thing in aneurisms; in aneurisms there is usually heard one sound produced by the action of the preceding blood wave upon the arterial walls and the aneurismatic sack, which are put in vibration; this sound is systolic and corresponds to the regular sound of the pulse. It is, however, not necessary that this sound be clear and similar to the normal sound of the pulse, or the cardiac sound; it may be heard as an abnormal sound, as a dissonnance, which probably is caused by irregular vibrations of the aneurismatic sack—which

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sometimes is uneven on account of the arterio-sclerosis, sometimes coated with coagula, sometimes communicating with the artery through a wide, sometimes through a narrow opening. This sound belongs, however, to the symptomatology of the aneurisms, but it is not so with the second sound; this one is not regularly heard in the aneurisms, but only in the aneurisms on aorta thoracica, not being produced in the aneurism itself but being the propagated second cardiac sound; it is for this reason ceteris paribus heard most distinctly in aneurisms situated near the heart, consequently on aorta ascendens, but it may be found also in aneurisms on arcus and aorta descendens (e.g. in No. 5.) That this second sound is due to the propagation of the second cardiac sound, is evident from the ·fact that its character depends entirely upon the character of the second cardiac sound; if this be clear, the other one will be clear; if this be dissonant the second aneurismatic sound will also be dissonant: the first aneurismatic sound may consequently have quite a different character from that of the first cardiac sound, but the second aneurismatic sound, if such a one exists, must have the same character as the second cardiac sound.

In our case the presence of a clear second aneurismatic sound made us suppose a normal closing of the aortic valves, a supposition which the autopsy showed to be correct. These direct symptoms, which in this case rendered the diagnosis of aneurisma aortæ descendentis so leasy, may, however, be entirely absent, when the aneurisms are situated profoundly, not touching the wall of the chest; we shall speak about that in our second class; but before entering upon it, the two other cases belonging to the first class shall be briefly reported.

2. Christine B., 58 years old; was admitted March 29th, 1878; syphilis denied, and no symptoms of it visible; she has miscarried five times and is supposed to have lived a dissipated life. She has for two years been a little short of breath, and suffered from neuralgic intercostal pains in the upper part of the right chest and shooting pains in the right arm; at the same time a little cough with scarce expectoration. The patient is very stout; there is to be seen a protrusion corresponding to 2nd right costal cartilage and to the 2nd in\*ercostal space forming a flat tumour, the apex of which is situated about 5 centimes from the middle line of sternum and the periphery of which vanishes imperceptibly in the healthy part of the chest; the diameter is about 5-6 centumes. The tumour gives a pulsating feeling of a double beat; is of a doughy consistence; shows no vibration by palpation and becomes flat by pressure. Ausculting the tumour, two sounds are noticed; at first a short, and a second a little prolonged; both sounds are clear. The cardiac dullness extends from about the third intercostal space on the left side to the fifth, and from the left sternal margin outwards where its limits are undefinable on account of the large, pendulous mamma. The cardiac sounds are very weak (much weaker than the sounds in the aneurism) as well at apex as at the base; first sound is short, second sound a little longer, especially at the base. The double sound is weakly to be heard in the vessels in the neck, not in aorta abdominalis. From jugulum and fossa supruclavicularis no tumor can be felt. The radial pulse uniform on both sides. Having remained in the Hospital for fifteen days she requested to be discharged. Her condition was unchanged.

The diagnosis of an aneurism was in this case as easy as in the previous one, on account of the distinct direct symptoms. We had here a double pulse in contrast to the previous case, and we could consequently be sure to hear a double sound; whenever a double beat is felt, two sounds are always heard. We may on the other hand very well hear two sounds, but feel

only one beat, as was the case in No. 1.

When therefore the diagnosis of an aneurism was incontrovertible, it is now the question where it was seated. Indubitably it was situated on aorta ascendens, as the aneurism there, when perforating the wall of the chest, most frequently is in the habit of protruding just in the place, where No. 2 had its external tumour, in the first and second intercostal space on the right side. It will be recollected that the external tumour in No. 1 was found on the left side of sternum; this already shows us that the rule has its exceptions. It might be questioned whether the aneurism in No. 2 were not seated in art. anonyma; this, however, seldom protrudes through the wall of the chest as low as in the present case. It may become prominent on the right side, but only in the first intercostal space, and it is often to be found in the right fossa supraclavicularis behind m. sterno-cleidomastoideus and m. scalenus. Besides the radial pulse on the right arm is often retarded by an aneurism on art. anonyma, which, as a matter of course, is not the case in an aneurism on aorta ascendens, and which was neither found in our patient.

3. August M., 45 years of age, laborer, was admitted August 15th, 1874, suffering from emphysema pulmonum; it was found besides that he had an aneurism of carotis communis; this alone shall be described here. In the inner part of the right regio supraclavicularis, between the two heads of m. sterno-cleidomastoideus is to be felt an oblong tumor, about 3 centim. long and 1½ centim. wide, over which the skin is normal and pliant, and which is pulsating. The tumor increased in size before he was discharged, became 4-5 centim. long and nearly 3 centim. broad. The pulsation is single; by auscultation a double sound is heard, a first as a powerfully blowing sound, and a second one very weak but clear. By compression behind the collar bone below the tumor this decreased in size. The heart was covered by the emphysematous lung, first cardiac sound was heard prolonged, blowing, second sound short, weak. He was transferred October 3d, 1874, to the hospital for incurable patients.

#### SECOND CLASS.

Aneurisms, where the diagnosis is made essentially through

indirect symptoms.

At the head of this class I shall put an observation which excels by its abundance of indirect symptoms, and which received an increased scientific interest by the subsequent autopsy.

4. Johan F., 51 years old, coach-maker, was admitted August 13th, 1877. He could not state anything positive about the appearance of aneurisms in his family, About 15 or 16 years ago he had contracted an ulcus peuis and probably a little later several constitutional symptoms, amongst others an

ophthalmia (Iritis); but there were not found any signs of syphilis. He was slightly bald-headed, had neither indurated glands nor any exososis, and only insignificant scars on the skin, except a big scar on one of the thighs. He has never been exposed to any considerable injury, excepting that he in 1849, during the war, received a gunshot wound in the right thigh fracturing femue, which took several months to heal and left a scar adherent to the bone and limping; this has made his work hard, but he has otherwise not been exposed to any extraordinary exertions. On the whole he has enjoyed good health until about two years ago, when his actual disease commenced.

He commenced noticing some palpitation of the heart, shortness of breath and oppression when walking and making exertions; he soon commenced coughing, expectorating scarcely, and by and by these symptoms became more continual, even when resting, at the same time increasing in intensity. Little by little there appeared besides the continual difficulty in respiration a more severe dyspræa, which came in attacks of various durations lasting from some minutes to a quarter of an hour, and sometimes longer; he noticed then that inspiration became stridulous and he had then to sit upright to breathe and felt like strangulated, which often became so intense that he became desperate and thought he was going to die during the attack. Independent of these more serious attacks of regular dyspuca, he has had attacks of oppression, during which respiration did not become stridulous, but he felt oppressed, greatly alarmed, and as if he was going to faint, but in reality he never lost consciousness; these attacks were often momentary. His report about the different attacks was verified during his staying in the hospital as they set in several times during the clinics or at the visit of the physician. He has all this time had some cough; expectoration has always been scarce, has been of a sero-mucous character and never contained any blood. The increasing difficulty in respiration compelled him to stop working, and had obliged him to keep the bed for three weeks before being admitted to the hospital. At his admission the general nutrition was found tolerably good, the chest robust and equally developed on both sides; the respiration essentially diaphragmatic; the respiratory movements on both sides uniform, resp. 36, audible, especially inspiration, which is prolongated, slightly stridulous, while expiration is hardly altered; he prefers to occupy a half sitting position and keeps the head forward. He coughs off and on a little; the voice is weak, but clear, not hoarse. On the upper part of the chest and on the left side appear some slightly dilated cutaneous veins, extending to the neck. Ictus cordis is felt diffused, as well in the epigastrium as near the nipple and in the whole cardiac region; it is rather powerful, but the wall of the chest is not raised by it; ictus is not to be felt as a single point, is felt both in the fourth and fifth intercostal space, strongest in the fifth, just inside the papillar line. The dullness by percussion commences at the lower margin of third costa and reaches to fifth costa; in latitude it extends from the left intersternal margin to outside the parasternal line. The cardiac sounds are heard faintly; the first is very weak as well at apex as at the base; is insignificantly prolongated; second sound a little stronger at the base, not accentuated in art. pulmonal's; in aorta ascendens and in the vessels on the neck no abnormal sounds. Pulse 100, regular, quite strong, uniform and isochronal in both radiales: no palpable arteriosclerosis. Percussion of the lungs gives no distinct abnormality; by auscultation nothing abnormal is found, except the propagated stridulous sound at inspiration and some few moist rattling sounds. Abdomen and other organs were normal; by laringoscopy nothing abnormal was found in larynx.

At his admission the patient did therefore not present any distinct symptoms of an aneurisma aortæ; there were, however, some that made the existence of such a one plausible, viz: the considerable dyspnæa, which at times would increase to orthopnæa and which could not be accounted for by any distinct

cause, neither in the lungs, the heart, nor anywhere else; furthermore the stridulous inspiration, which could not be caused by a stenosis in larynx, partly because the laryngoscopy did not prove any, partly because larynx even during the most violent attacks of dypnæa kept quiet and did not rise and fall during inspiration and expiration. This is the case in stenosis of larynx, while larynx keeps quiet in stenosis of trachea. Besides, our patient did not during the attacks of dypnæa put his head backwards as usually in stenosis of larynx, but kept his head forwards as the case often is in stenosis of trachea. It was for these reasons natural to suppose a stenosis of trachea, and as there did not exist externally on the neck any tumours that could compress trachea it was reasonable to suppose a pressure upon the lowest part inside of thorax, possibly also an organic stricture (syphilitic, polyp). There were besides the dilated cutaneous veins around the left collar- bone. We had consequently elements for supposing an aneurisma aortæ et quidem arcus aortæ, compressing the lowest part of trachea. We therefore immediately watched a possible event of new symptoms, that might confirm our supposition, and quite soon the most complete picture of an aneurism arcus aortæ presented itself to the observers. Strange enough, the first symptom that made the diagnosis certain, was a direct one; already, a few days after his admission, I made the following entry in the journal:

On manubrium sterni, where percussion is normal, is to be heard a weak double sound, a prolonged first sound and a somewhat sounding second one. Placing the hand flat upon manubrium an indistinct pulsation is felt, but no tumor is felt deeply in jugulum. Examining the radial pulse no difference in force and time is noticed on the two sides.

[TO BE CONTINUED.]

#### PAINLESS DEATH.

In one of his lectures Prof. Tyndall spoke of the probabilities in favor of the entire absence of pain accompanying death by lightning. It is popularly supposed that an impression made upon the nerves—a blow or puncture—is felt at the precise instant it is inflicted, but such is not the fact. The seat of sensation is the brain, and intelligence of the injury must be transmitted to this organ through a certain set of nerves, acting as telegraph wires, before we become conscious of pain. This transmission or telegraphing from the seat of injury to the brain requires time, longer or shorter, according to the distance of the injured part from the brain, and according to the susceptibility of the particular nervous system operated upon.

Helmholtz, by experiments, determined the velocity of this nervous transmission in the frog to be a little over eighty-five feet per second; in the whale, about one hundred feet per second; and in man, at an average of two hundred feet per second.

If, for instance, a whale fifty feet long were wounded in the tail, it would not be conscious of the injury till half a second after the wound had been inflicted. But this is not the only ingredient in the delay. It is believed that to every act of consciousness belongs a determinate molecular arrangement of the brain, so that, besides the interval of transmission, a still further time is necessary for the brain to put itself in order for its molecules to take up the motions or positions necessary to the completion of consciousness. Helmholtz considers that one-tenth of a second is required for this purpose. Thus, in the case of the whale, there is, first, half a second consumed in the transmission of the intelligence through the sensor nerves to the brain, about one-tenth of a second consumed by the brain in completing the arrangement necessary to consciousness, and, it the velocity of transmission from the brain through the motor nerves be the same as that through the sensor, about half a second more is consumed in sending the message to the tail to defend itself. Therefore, one second and one-tenth would elapse before an impression made upon its caudal nerves could be responded to by a whale fifty feet long.

If we regard as correct the calculations representing the average velocity of transmission in the human nerves, and if we estimate the distance from the origin of the filaments in the brain to their termination in the foot, as five feet, the time required, in case some one steps on your favorite corn, for the news to be telegraphed to the brain, for the brain to prepare a message, and to telegraph the same to the muscles of the leg to draw the foot away, would be about one-twentieth of a second. Now, it is quite conceivable that an injury might be inflicted which would render the nerves unfit to be conductors of sensation, and if this occurred, no matter how severe the injury might be, there would be no consciousness of it. Or it might happen that the power of the brain to complete the molecular arrangement necessary to consciousness would be wholly suspended before there would be time for the transmission of the intelligence of the injury. In such a case, also, although the injury might be of a nature to cause death, this would occur without feeling of any kind. Death in this case would be simply the sudden negation of life, without any intervention of consciousness whatever.

Doubtless there are many kinds of death of this character; the passage of a rifle-bullet through the brain is a case in point. The time required for the bullet in full velocity to pass clean through a man's head may be roughly estimated at a thousandth part of a second. Here, therefore, would be no room for sensation, and death would be painless. But there is another action which far transcends in rapidity that of the riflebail. A flash of lightning cleaves a cloud, appearing and disappearing in less than a hundred-thousandth part of a second, and the velocity of electricity is such as would carry it in a

single second of time over a distance almost equal to that which separates the earth and moon.

A luminous impression once made upon the retina endures for about one-sixth of a second, and this is why we see a ribbon of light when a glowing coal is caused to pass rapidly through the air. A body illuminated by an instantaneous flash continues to be seen for the sixth of a second after the flash has become extinct; and if the body thus illuminated be in motion, it appears at rest at the place where the flash falls upon it.

The color-top is familiar to most of us. By this instrument a disk with differently-colored sectors is caused to rotate rapidly; the colors blend together, and, if they are chosen in the proper proportions, the disk will appear white when the motion is sufficiently rapid. Such a top rotating in a dark room and illuminated by an electric spark appears motionless, each distinct color being clearly seen. Prof. Dove has found that an illumination by a flash of lightning produces the same effect. During a thunder storm he put a color-top in exceedingly rapid motion, and found that every flash revealed the top as a motionless object with its colors distinct. If illuminated solely by a flash of lightning the motion of all bodies on the earth's surface would, according to Prof. Dove, appear suspended. A cannonball, for example, would appear to have its flight arrested, and would seem to hang motionless in space as long as the luminous impression which revealed the ball remained upon the eye. If, then, a rifle-bullet passing through the brain move with sufficient rapidity to destroy life without the interposition of sensation, much more is a flash of lightning competent to produce this effect. We have well-authenticated cases of people being struck by lightning who, on recovery, had no recollection of

The Rev. Dr. Bartol, who was lately nearly killed by lightning, expressed the belief that if the stroke proves fatal it must produce the most agreeable mode of death; but to be stunned, as he was, is very unpleasant. As soon as consciousness returned he experienced a terrible sense of oppression and an irresistible weight seemed passing through him, while his mind was dazed so that for a while it seemed he had suddenly been precipitated into wonderland. His recovery was attended by

headache, continued for a week.

The following case is described by Hemmer: On June 30, 1788, a soldier in the neighborhood of Mannheim, being overtaken by rain, stationed himself under a tree, beneath which a woman had previously taken shelter. He looked upward to see whether the branches were thick enough to shed the rain, and in doing so was struck by lightning, and fell senseless to the earth. The woman at his side experienced the shock in her foot, but was not struck down. Some hours afterward the man recovered, but remembered nothing about what had occurred, save the fact of his looking up at the branches. This

was his last act of consciousness, and he passed into the unconscious condition without pain. The visible marks of a lightning stroke are usually insignificant, the hair being sometimes burnt, slight wounds occasioned, or a red streak marking the track of the electric discharge over the skin.

Prof. Tyndall relates, standing in the presence of an audience. about to lecture, that he accidentally touched a wire leading from a charged battery of fifteen large Leyden jars, and the current passed through his body. He says life was absolutely blotted out for a very sensible interval, without a trace of pain. In another second or so consciousness returned. He saw himself in the presence of the audience and in contact with the apparatus, and immediately realized that he had receized the battery discharge. The intellectual consciousness of his position was restored with exceeding rapidity, but not so the optical consciousness. To prevent the audience being alarmed he stated that it had often been his desire to receive, accidentally, such a shock, and that his wish had at length been gratified. But while making this explanation the appearance which his body presented to himself was that of being in separate pieces. His arms, for example, seemed to be detached from his body and suspended in the air, Memory and the power of reasoning and speech were complete long before the optic nerve recovered from the electric shock. The Professor dwelt upon the absolute painlessness of the shock, and believes there cannot be a doubt that to a person struck dead by lightning, the passage from life to death occurs without consciousness. It is an abrupt stoppage of sensation, unaccompanied by a pang.—National Med. Review, December, 1878.

### EXPERIMENTS WITH THYMIC ACID AND ITS SALTS.

Cozzolino, of Naples, describes (Giornali Internazionale dele Scienze Med.) the results of his experiments with this agent. Four severe cases of malignant diphtheritis were successfully treated by the local application of thymic acid dissolved in alcohol; salicylate of quinia was employed internally.

This acid possesses the advantage of not being unpleasant to the patient; while it purifies the atmosphere, it does not offend the smell. It does not alter the appearance of wounds, so that the condition of the latter can always be readily observed. The author considers it superior to all other agents in the treatment of ozena, when injected into the nose as an emulsion with gum acacia (1:1000). As an application to syphilitic ulcers it was slightly painful, but promoted rapid healing. As an application without odor in the treatment of parasites of the skin—as in favus, herpes tonsurans, etc.,—the author advises the combination of this acid with vaseline. Benefit was derived from the agent in typhus, recurrent fever

and even cholera. In gastric catarrh, the result of fermentative processes, and in putrid diarrhoea the acid, alone or combined with soda or quinia, was employed. Its action in acute rheumatism very much resembles that of salicylic acid.

For internal administration, 100 grammes of a ½—1 per cent. solutio was added to 20 grammes of sweet almond oil and 25 grammes of syrup; of this emulsion a teaspoonful was given 5 or 6 times a day. For external applications one hundred grammes of a 1—4 per cent. alcoholic solution was added

to each litre of water.

The author believes that in the sulpho-thymate of quinia we possess an antipyretic, antizmotic remedy of great value. It is prepared by the mixture of thymic acid with sulphate of quinia. It is a white powder of a slightly bitter pungent taste and pleasant odor, soluble in ether and alcohol, slightly also in water. It is preferable to the sulpho-phenate of quinia on account of its aromatic odor. Thymate of soda is a whitish powder obtained by the addition of thymic acid to the bicarbonate of soda. It is soluble in water and has a pleasant taste and odor. This agent is peculiarly indicated in the infectious diseases of children on account of its easy administration.

A solution of this salt may be employed in the oral ulcers of consumptive and syphilitic patients, and as a mouthwash in typhoid fever. It serves excellently as an injection into abscesses, the bladder or vagina. The dose for adults is 3—4 grammes, for children 0.5 grammes The writer claims to speak from personal experience when he says that the more this agent is employed in the class of cases indicated, the more will the attendants be pleased with its action.—Cincinnati Lancet and Clinic.

# GOOD EFFECTS OF LIGATION OF THE THIGHS IN OBSTINATE EPISTAXIS.

M. Blondeau reports the case of a gouty subject, who had an attack of epistaxis, in which nearly two quarts of blood were lost, and which ceased only on the occurrence of syncope. Eight days later a second attack occurred. Injections of cold water containing perchloride of iron were first tried in vain, and a ligature was then applied tightly to the middle of the thigh. The hemorrhage ceased almost immediately, but reappeared on the following day shortly after the ligature had been removed. The ligature was again applied with equal success, but its removal was again followed by recurrence of the epistaxis. The treatment was, however, persevered in, and finally, after several days, the hemorrhage ceased completely.—Gazette des Hopitaux. (Toledo Medical and Surgical Journal.)

## "SIMILIA" ON A RAMPAGE.

A Chicago homeopathic doctor reports in the New York Homeopathic Times a case of renal calculus which refused to yield to nux vomica, colocynth and other remedies, though they were given, we suppose, in doses potentially annihilated after the orthodox formula of Hahnemann. The patient being "frantic with pain" he "gave moderately of chloroform," and then a grain of morphia at a dose! After this she rested quietly for a time, but only for a time. A tobacco poultice (similia?) relieved the strangury. He next inserted a catheter with an aspirating syringe attached, and pumped out the bladder. He adds: "I continued the pumping process, exhausting the bladder and producing a partial vacuum, with perhaps from three to five pounds pressure, when suddenly the patient made a quick, sharp outcry and said, 'There it comes, thank God!" " The calculus was drawn into the bladder. This is all very good, and the process, which he compares to sucking an oyster out of its shell, may be worthy of further trial. But we fail to see where the "similia" comes in. He pumped the wrong way for homeopathy.—Pacific Medical and Surgical Journal, September, 1878.

## Bulletin of the Public Health.

Issued by the Surgeon General, United States Marine Hospital Service, under the National Quarantine Act of 1878.

No. 26. January 4, 1879.

OFFICE SURGEON GENERAL, M. H. S. Washington, Jan. 8, 1879,

Yellow Fever.—The present issue of the Bulletin is the first

for which no cases or deaths were reported.

Massachusetts.—Week ended December 28th. In 18 cities and towns with an aggregate population of 808,200 there were 355 deaths, an average annual ratio per 1000 of 22.90. The rate varying from 4 at Pittsfield and Fitchburg to 16 at Cambridge and Springfield, 21 at Fall River, 23 åt Lowell, 26 at Boston, 27 at Gloucester and 28 at Worcester to 30 at Salem and Somerville. The principal "zymotic" diseases caused 20 per cent. of all the deaths, 46 being from diphtheria and croup, 10 from scarlet fever. Phthisis caused 58 deaths, pneumonia 39 deaths.

Boston.—Week ended January 4th. Deaths from all causes 178. Ratio 26; 26 cases of scarlet fever, 10 deaths; 24 cases of

diphtheria, 9 deaths; 39 deaths from phthisis, 15 from pneu-

monia, 10 from bronchitis.,

New York.—Week ended January 4th. Total deaths 555. Annual ratio 26.4; 85 deaths from phthisis, 64 from pneumonia, 19 from bronchitis, 53 from scarlet fever, 33 from diphtheria—the latter disease very prevalent.

Brooklyn.—Week ended January 4th. Total deaths reported 240. Ratio 22.11; 57 cases of scarlet fever, 7 deaths; 49 cases of diphtheria, 12 deaths; 11 deaths from croup, 24 from phth-

isis, 30 from acute pulmonary diseases.

Baltimore.—Week ended January 4th. Total deaths 137. Annual ratio 19.5; 28 deaths from phthisis, 24 from pneumonia, 9 from diphtheria, 2 from scarlet fever. Total deaths in 1878, 6733, a ratio of 18.4 to each 1000 of the population.

District of Columbia.—Month of December. Total deaths 321. Annual ratio 24. Death rate in the white population 19, in the colored 33.7. "Zymotic" diseases caused 52 deaths, phthi-

sis 61, pneumonia 30, bronchitis 10.

Richmond.—Two weeks ended January 4. 54 deaths. Annual ratio 17.7. 7 deaths from phthisis, 9 from scarlet fever, 3 from diphtheria.

Charleston.—Week ended December 28. Total deaths 34.

Annual ratio 35.

Cleveland.—January 1st to 4th. Deaths 38, 9 cases of diphtheria, 7 deaths.

Milwaukee.—Week ended December 28. Total deaths 25.

Annual ratio 11.5. Diphtheria prevalent.

Cincinnati.—Two weeks ended December 28. Total deaths 234. Annual ratio 21.7. "Zymotic" diseases caused 33 per cent. of the deaths; 51 being from scarlet fever, 14 from diphtheria. Phthisis caused 20 deaths, acute pulmonary diseases 33 deaths.

Chicago.—Two weeks ended December 28. Total deaths 281. Annual ratio 16. 25 deaths from phthisis, 44 from acute pulmonary diseases, 23 from diphtheria, 6 from scarlet fever. 7422

deaths were reported in 1878, a ratio of 16 per 1000.

St. Louis.—Week ended December 22. Total deaths 101. Annual ratio 10. 28 deaths from "zymotic" diseases. During the yellow fever epidemic there were 15 deaths from the disease in the city, and 40 deaths at the quarantine station. All but one of these decedents were refugees.

New Orleans.—Week ended December 22. Deaths reported from all causes 79. An annual ratio of 20. In the white pop-

ulation the death rate was 18.5, in the colored 23,

Bermuda.—Tife United States Consul reports that in a population of over 15,000 there is rarely more than one death per week, and that the Island is remarkably free from all infectious diseases.

Havana.—Week ended January 4. 9 deaths from small-pox, 4 deaths from yellow fever.

Great Britain.—Week ended December 14. In 20 large towns with an aggregate population of 7,270,000 there were 3844 deaths, an average annual rate of 27.6 per 1000 of the population. The deaths from scallet fever were 177 against 223 and 197 in the two preceding weeks. The death rate at Portsmouth was 19, Brighton 22, Plymouth 28, Sheffield 28, Manchester 35.

London.—Week ended December 14. 1698 deaths from all causes. Annual ratio 24.8. Diphtheria caused 14 deaths, measles 34, whooping-cough 47, scarlet fever 46, other fevers 33. Deaths from acute diseases of the respiratory organs numbered 428, 441, 460 and 501 respectively for the 4 weeks preceding December 14. In the latter week 17 deaths from small-pox occurred, and 300 cases of the disease were estimated to exist in the city, there being 198 cases in the hospitals on December 14. In Deptford the spread of small-pox has been traced to a "wake" that had been held on the body of a child who had died of the disease.

Liverpool.—Week ended December 14. Total deaths 384. Annual ratio 38. 40 deaths from searlet fever.

Birmingham.—Deaths from all causes 227. Annual ratio 31.

23 deaths from scarlet fever.

Dublin.—Week ended December 14th. Total deaths 230, an annual ratio of 38. Acute pulmonary diseases caused 87 deaths, phthisis 18 deaths, small-pox 8 deaths; 103 cases of the latter disease remained in the hospitals on December 14.

The death rate for the week at Glasgow was 30, Edinburgh

19, Cork 28, Londonderry 22.

Paris.—Week ended December 12, 905 deaths. Annual ratio 23.7. Diphtheria caused 17 deaths, enteric fever 14, small-pox 4 deaths.

Vienna.—Week ended December 7th, 396 deaths. Annual

rate 28.3; 16 deaths from small-pox, 35 from diphtheria.

German Empire.—Week ended December 7th. In 149 cities with an aggregate population of 7,365,587 there were 3425 deaths, an average annual rate of 24.2 per 1000 of the population; 46 per cent, of the deaths were of children under 5 years of age. There were 3 deaths from small-pox, 96 from scarlet fever, 198 from diphtheria, 304 from pneumonia, 483 from phthisis.

Berlin.—Week ended December 7th. Total deaths 493. Annual ratio 24.8; 1 death from small pox, 11 from scarlet fever, 42 from diphtheria, 29 from pneumonia, 57 from phthisis.

St. Petersburg.—Week ended November 30th. Total deaths 457. Annual rate 35.8; 35 deaths from small-pox, 30 from enteric fever, 70 from pneumonia, 68 from phthisis. Late advices state that the "plague" has reappeared on the Northern shores of the Black Sea, where it is supposed to have been imported by Cossacks returning from Turkey. Astrakan is the central point of infection, and the Russian health authori-

ties are making vigorous efforts to prevent the extension of the disease.

Calcutta.—Week ended November 9th. Total deaths 365. Cholera caused 15, "fevers" 147 deaths. Annual ratio 44.3. Rate at Madras 45, at Bombay 32.

In England, during the past year, tents have been used for the treatment of cases of scarlet fever and small-pox in towns where the diseases prevailed in epidemic form, with most satisfactory effect in arresting their spread.

The latest returns give the death rate at Alexandria as 31, Naples 23, Rome 22, Venice 26, Lisbon 31, Barcelona 34, Munich 30, Hamburg 27, Cologne 20, Brussels 23, Amsterdam 22, Copenhagen 23, Stockholm 16, Warsaw 27.

# No. 27. January 11th, 1879.

Massachusetts.—Week ended January 4th. In 16 cities with an aggregate population of 712,800 there were 314 deaths, an annual ratio of 23 per 1000 of the population. Ratio at Pittsfield 24, Springfield 15, Worcester 19, Fall River 21, Lynn 24.5, Gloucester 24.3.

Boston.—Week ended January 11th. Deaths from all causes 168. Annual ratio 23; 31 cases of scarlet fever, 8 deaths; 25 cases of diphtheria, 11 deaths; 36 deaths from phthisis, 26 from pneumonia, 7 from bronchitis.

New Haven.—Month of December. Total deaths 91. Aunual ratio 18.2; 20 per cent. of all the deaths were from "zymotic" diseases, 14 deaths from phthisis, 8 from pneumonia.

New York.—Week ended January 11th. Total deaths 569. Annual ratio 27.1; 22 deaths from diphtheria, 54 from scarlet fever, 82 deaths from phthisis, 68 from pneumonia, 28 from bronchitis.

Philadelphia.—Two weeks ended January 11th. Total deaths 672. Annual ratio 20; 24 deaths from diphtheria, 20 from scarlet fever, 11 from enteric fever.

Baltimore.—Week ended January 11th, 162 deaths. Annual ratio 23; 8 deaths from diphtheria, 4 from searlet fever, 17 from phthisis, 19 from pneumonia, 13 from bronchitis, 23 decedents whose ages averaged 80 years each.

District of Columbia.—Week ended January 11th, 81 deaths. Annual ratio 26; 4 deaths from scarlet fever, 3 from diphtheria.

Norfolk.—Month of December. Total deaths 43. Annual ratio 22.4; 7 deaths from phthisis, 15 from acute pulmonary diseases.

Pittsburg.—Week ended January 4th. Total deaths 49. Annual ratio 17.6; 8 deaths from diphtheria.

Cincinnati.—Week ended January 4th. Total deaths 97. Annual ratio 18; 24 deaths from searlet fever, 6 deaths from diphtheria.

Milwaukee.—Week ended January 4th. Total deaths 44. Annual ratio 19: 24 cases diphtheria, 6 deaths.

Salt Lake City.-Month of December. Total deaths 44.

Annual ratio 10; 22 deaths from diphtheria.

New Orleans.—Two weeks ended January 5th. Total deaths 167. Annual ratio 20; 23 deaths from phthisis, 25 from pneumonia and bronchitis, 2 from diphtheria.

Havana.—Week ended January 11th; 1 death from yellow

fever, 11 deaths from small-pox.

Great Britain.—Week ended December 21st. In 20 large towns of England, with an aggregate population of 7,270,000 there were 4500 deaths, an average annual ratio of 32.3 against 22.6 and 24.4 in the corresponding periods of 1876 and 1877. The excessive mortality was due to the acute pulmonary affections, resulting from the unusually cold weather. The death rate at Portsmouth was 24, Brighton 31, Birmingham 31, Sheffield 34, Bristol 36, Manchester 38, Liverpool 39.

London.—Week ended December 21st. Total deaths 2133. Annual ratio 31. There were 650 deaths from acute pulmonary diseases; 194 from phthisis, 55 from scarlet fever, 18 from diphtheria, 14 from small pox, 198 cases of the latter disease

remained in the hospitals on December 21st.

Dublin.—Week ended December 21st. Total deaths 248. Annual ratio 41; 87 deaths from acute lung diseases, 15 from small-pox. There was an alarming increase in the number of new cases of the latter disease during the week; 136 cases remaining in the hospitals December 31st.

Paris.—Week ended December 19th, 1007 deaths. Annual ratio 26.3; 23 deaths from enteric fever, 19 from diphtheria, 4

from small-pox.

German Empire.—Week ended December 14th. In 150 towns with an aggregate population of 7,419,000 there were 3465 deaths, an annual average ratio of 25 per 1000 of the population. There were 59 deaths from measles, 89 from scarlet fever, 228 from diphtheria, 481 from phthisis, 401 from acute pulmonary diseases; 48.3 per cent. of all the deaths were of children under 5 years of age.

Berlin.—Week ended December 14th. Total deaths 487.

Annual ratio 24.5; 37 deaths from diphtheria.

Vienna.—Week ended December 14th. Total deaths 408. Annual ratio 29.2; 7 deaths from small-pox, 8 from scarlet fever, 32 from diphtheria. The last advices report the latter disease as very prevalent and on the increase.

St. Petersburg.—Week ended December 7th. Total deaths 539. Annual ratio 42; 31 deaths from small-pox, 30 from

enteric fever, 12 from scarlet fever, 10 from diphtheria.

India, Cal.—Week ended November 16th. Total deaths 428. Annual ratio 52; 201 deaths from "fevers," 12 from cholera. Bombay.—Week ended November 19th, 486 deaths. Annual

ratio 31; 184 deaths from fevers, 9 from cholera.

Madras.—Week ended November 8th. Total deaths 325. Annual ratio 42.5; 8 deaths from small-pox, 114 from fevers.

In the Province of the Punjaub there were 1317 deaths from small pox in the month preceding September 21st. The disease is now on the increase. The death from fevers in the same period numbered over 30,000, and are increasing.

Brooklyn, N. Y.—Week ended January 11th, 224 deaths. Annual ratio 20.6; 90 cases of scarlet fever, 15 deaths; 43

cases of diphtheria, 19 deaths.

## No. 28. January 18, 1879.

Boston.—Week ended January 18th. Total deaths 157. An annual ratio of 22 per 1000 of the population. There were 13 cases of scarlet fever and 4 deaths; 25 cases of diphtheria, 19 deaths; 26 deaths from phthisis, 20 from pneumonia, 7 from bronchitis.

New York.—Week ended January 18th. Total deaths 632. Annual ratio 30; 68 deaths from scarlet fever, 22 from diphtheria, 86 from phthisis, 82 from pneumonia, 42 from bronchitis.

Elmyra, N. Y.—Month of December. Total deaths 52. An-

nual ratio 28; 27 deaths from diphtheria.

Philadelphia.—Week ended January 18th. Deaths from all causes 361. Annual ratio 21.5. Scarlet fever caused 6 deaths, diphtheria 12 deaths, enteric fever 9 deaths: bronchitis 41 deaths, pneumonia 37 deaths, phthisis 60 deaths.

Pittsburg.—Week ended January 11th. Total deaths 69. Annual ratio 23.4; 7 deaths from diphtheria, 1 from scarlet

fever.

Baltimore.—Week ended January 18th. Deaths from all causes 163. Annual ratio 23. Scarlet fever caused 4 deaths, diphtheria 4, enteric fever 5, phthisis 15, pneumonia 24. There were 30 decedents whose ages averaged 80 years; 1 of 113 years.

District of Columbia.—Week ended January 18th. Deaths from all causes 73. Annual ratio 23.7; 1 death from scarlet

fever, 4 from diphtheria, 13 from pueumonia.

Cleveland .- Two weeks ended January 18th. Total deaths

78. Annual ratio 19.2; 16 cases diphtheria, 6 deaths.

Chicago.—Week ended January 11th. Total deaths 148. Annual ratio 16.7; 6 deaths from scarlet fever, 9 from diphtheria, 7 from bronchitis, 14 from pneumonia, 15 from phthisis.

Cincinnati.—Week ended January 11th. Total deaths 110. Annual ratio 20,5; 43 per cent. of deaths were due to "zymotic"

diseases, scarlet fever causing 25.

St. Louis.—Three weeks ended January 18th. Total deaths 344. Annual ratio 12-2; 36 deaths from phthisis, 47 from pneumonia, 4 from scarlet fever, 8 from diphtheria. In 1878 the rate of mortality was 12 per 1000 of the population.

San Francisco.—Week ended January 10th. Total deaths 129. Annual ratio 22. Scarlet fever caused 5 deaths, diphthe-

ria 7, phthisis 23, pneumonia 22 deaths.

New Orleans.—Week ended January 12th, 124 deaths. An-

nual ratio 30-7; 5 deaths from diphtheria, 12 from phthisis, 12 from pneumonia.

Havana.—Week ended January 18th. Yellow fever caused 3

deaths, small pox 9 deaths.

Great Britain.—Week ended December 28th. There were 4962 deaths in 23 large towns with an aggregate population of

8,374,000, an average annual rate of 31.

London.—Week ended December 28th. Total deaths 1900. Annual ratio 27.7. Measles caused 34 deaths, scarlet fever 48, diphtheria 22, whooping cough 62. Acute pulmonary diseases caused 634 deaths, small pox 13 deaths; the number of cases of the latter disease has steadily increased during the past three months, 225 remaining in the hospitals on December 28th.

During 1878 there were 83,694 deaths in London, an annual rate of 23.5 per 1000, against 22.3 in 1876 and 22.9 in 1877. Seven principal preventable diseases caused 18 per cent. of all the deaths. Whooping cough caused 4446 deaths, diarrhea 3651, scarlet fever 1792, measles 1510, fevers 1361, small-pox

1416, diphtheria 558.

Dublin.—Week ended December 28th. Total deaths 238. Annual ratio 38. 4 deaths from scarlet fever, 5 from measles, 96 from acute lung diseases, 16 from phthisis, 19 from smallpox, making 550 deaths from the latter disease during the year 1878. 122 cases remained in the hospitals on December 28th, but the number of new cases during the week had materially lessened.

Galway.—During the week there were 7 deaths from smallpox. Mortality rate for the week at Liverpool 37, Manchester 42, Birmingham 33, Sheffield 27, Edinburg 24, Glasgow 36.

Paris.—Week ended December 26th. Total deaths 938. Annual ratio 24.6, Enteric fever caused 20 deaths, diphtheria

14, small-pox 5.

Vienna.—Week ended December 21st. Total deaths 389. Annual ratio 28. 31 deaths from diphtheria, 11 from smallpox.

St. Petersburg.—Week ended December 21st. Total deaths 526. Annual ratio 41. 35 deaths from small-pox, 28 from en-

teric and typhus fevers.

German Empire. Week ended December 21st. In 150 cities and towns with an aggregate population of 7,435,324, there were 3709 deaths, an average annual rate of 26 per 1000 of the population. 47 per cent. of the deaths occurred in children under 5 years of age. Small pox caused 1 death, 58 from measles, 87 from scarlet fever, 218 from diphtheria, 489 from phthisis, 482 from acute lung diseases.

Calcutta.—Week ended November 23d. Deaths 407. nual ratio 50. Cholera caused 21 deaths, "fevers" 204.

Bombay.—7 deaths from cholera, 195 from "fevers."

JNO. M. WOODWORTH, Surgeon-General, U. S. M. H. S.

## EDITORIAL.

### SANITARY LEGISLATION.

There was reason to expect that the yellow fever epidemic of 1878 would awaken our General Assembly to the importance of strengthening the hands of the Board of Health to prevent a similar visitation during the present year; but they have yielded to the popular clamor, uttered through the daily press, for a short session, and left unfinished a large amount of important business. If the measures of sanitary reform brought to their notice had merely been passed by for want of time, their conduct might in some degree be excusable, but it was too apparent that the majority, in both Houses, were strenuously opposed to some of their most important features.

The truth might as well be recognized: there is a groundless jealousy on the part of the average legislator, as well as the average citizen, towards the Board of Health and the medical profession in general, because they are prominent exponents of progress in science. It is only a new chapter in the long history of the warfare of science against ignorance and superstition, in which the people resist at every point the civilization which science proffers.

Preventive medicine finds its strongest, and almost its only, advocates among physicians, who make their support in treating the diseases of mankind, and, if they were actuated by ordinary human motives, would rather encourage than strive to repress disease. Yet, in these efforts of pure benevolence, what do they receive from those intended to be benefited? From the people, distrust, prejudice, or at the best, indifference; from their representatives in the Legislature, open opposition, contempt, or at the best polite regrets that there is not time enough for consideration of matters of public health!

In his disappointment the sanitarian finds consolation in philosophy, which teaches the eternal justice of natural laws, and in accordance with which he is convinced that the sovereign people enjoy already as many of the benefits of science as they deserve, and more than they know how to appreciate. In the proceedings of the New Orleans Medical and Surgical Association, to be found in another part of this number, the report of a special committee on yellow fever contains some views in which we cannot concur and must not allow assent to be implied by silence. We do not admit that yellow fever has become "domesticated" in any part of the United States, with the possible exception of Key West, though prepared to agree that the infection may survive a mild winter in points protected from the action of frost. The disease is not fairly domesticated, if liable to be destroyed by natural causes, and by the same reasoning the banana plant is not fully domesticated to our climate, though we believe that it has gained closer approximation to this condition than yellow fever.

As a matter of fact, yellow fever made no appearance in New Orleans in 1861, having been eradicated by the frost of the winter of 1860 61; and the same result obtained again in 1877, the single case occurring that year having come through the quarantine.

Another view of the committee is appropriately illustrated by a parallel, as for example:

Dictum of the Committee.

\* \* \* "The fact that quarantine has never prevented sporadic cases or epidemics of yellow fever, nor ever will do it \* \* \*

THEIR CONCLUSION:
"We protest against the present system of quarantine, or any one similar to it" \* \* \*

Our own Dictum.

The fact that MEDICINE has never prevented disease and death among mankind, nor ever will do it, warrants

THIS CONCLUSION:
We protest against the present system of medicine, or any one similar to it.

The recommendations of the committee for executing sanitary improvements in New Orleans are excellent, especially as regards drainage, sewerage, water supply, the paving of streets and the filling of lots, but they have omitted the important point of providing ways and means. The actual and prospective condition of our city's politics and finances warrants the belief that the doctrine of the Milleunium and the New Jerusalem affords a speedier and reasonabler solution of our sanitary problem than their admirable plan.

## LOUISIANA STATE MEDICAL ASSOCIATION.

We take occasion to remind our readers that the second meeting of this reorganized body will meet at New Orleans on the second Wednesday of April, 1879. The medical men of our State will have no right to complain of the hostility and neglect of the Legislature towards State Medicine as long as they fail to show an interest in the same cause themselves. The only effectual way to give force to their convictions is by a State organization sustained by constituent associations in the several parishes. It is unnecessary to dwell upon the additional advantages of such intercourse for the promotion of professional advancement and friendly relations among members. Verbum sat.

## Necrology.

ROOMS OF SHREVEPORT MEDICAL SOCIETY, Shreveport, La., January 23d, 1879.

Messrs. Editors N. O. Medical and Surgical Journal:

I have the honor to enclose an extract from the minutes of the Shreveport Medical Society on the death of Dr. Joe L. Moore. 1 am instructed to forward this as a necrological item and request that you give it publication in your valuable Journal.

> Very respectfully, your obedient servant, D. H. BILLIU, M. D., Cor. Sec.

At a meeting of the Shreveport Medical Society, held on the 16th inst., the following paper was adopted:

## IN MEMORIAM.

Died at Shreveport, La., on November 12th, 1878, Dr. Joe L. Moore, in the forty-second year of his age.

Dr. Moore was a native of Kentucky and was graduated in medicine at the Missouri Medical College. Early in his professional career he removed to Missouri and resided there till the outbreak of the late war between the States. He espoused the cause of the South and entered the army as surgeon of a Missouri regiment.

He made character as a medical officer and finally became chief surgeon of Gen. Marmaduke's Division. At the close of the war in 1865, the surrender found him in Shreveport. Here he located and rapidly grew in popular favor as a physician and surgeon, and for years did a large and lucrative practice, achieving for himself an enviable reputation. He was a faithful member and, as long as health permitted, a regular attendant upon the meetings of this Society. For the past three years his health gradually declined, till at length he passed away. Your committee would therefore beg to submit the following:

Whereas, It has pleased the Great Disposer of all Events to remove from our midst, while in the meridian of life, our friend and confrere, Dr. Joe L. Moore;

Resolved, That in the death of Dr. Moore, the Shreveport Medical Society has lost an active and efficient member, the profession an accomplished physician, and his medical brethren a generous friend;

Resolved, That we, as a Society, extend our sincere sympathies to his bereaved family;

Resolved, That a copy of this preamble and resolutions be furnished the members of his family, and a copy be forwarded to the N. O. Medical and Surgical Journal, with request to publish.

A. A. LYON, M. D., J. A. SANDERS, M. D., D. H. BILLIU, M. D.

Committee.

# REVIEWS AND BOOK NOTICES.

Differential Diagnosis: A Manual of the Comparative Semeiology of the more important Diseases. By F. De Havilland Hall, M. D., Assistant Physician to the Westminster Hospital, London. American edition, with extensive additions—8 vo., pp. 205. Philadelphia: D. G. Brinton, 1879.

The original work was simply a "Synopsis of the Diseases of the Larynx, Lungs and Heart," but the plan has been ex-

tended by the American editor, so as to embrace all the more common and serious diseases. Its most important feature is the presentation, in parallel columns, of the principal diagnostic symptoms of diseases liable to be confounded, and the editor gives preference to American over European authorities, on the ground that "diseased conditions assume very different aspects under different climatic and sociological surroundings."

The plan of the work we regard as highly commendable for its convenience of reference and the precision of which it is capable. In the examination which we have had time to make of its execution, it seems to us that the parallel tables have not been prepared with such attention to exactness of symptoms, in many instances, as is desirable in a work claiming to exercise authority. Probably the parallel presented between Yellow Fever and Bilious Remittent Fever offers the most striking illustration of the above remark, as here appears:

#### YELLOW FEVER.

- (1.) Is essentially of an incities.
- (2.) Chiefly vigorous and liable than white.
- (3.) Restricted chiefly to the yellow fever zone.
- (4.) Is of a continued type; remissions not marked.
- (5.) Usually attacks at night.
- (6.) Severe nausea and vomtenderness early and decided slight. Headache frontal. black vomit. Headache occipital.
- gums and various parts of the
- (8.)stages.
- (9.) Eye highly injected and humid; expression often fierce peculiar. or anxious.

### BILIOUS REMITTENT FEVER.

Is not of an infectious nature. fectious nature, and found in and usually found in the coun-

All ages and constitutions young constitutions fall victims are liable, and the weakest to it. Colored population less most so. Colored population as liable as white.

> Is to be found in all parts of the world where marshy soils prevail.

Remission observed in the morning.

Usually attacks in daytime.

Nausea and vomiting moditing throughout. Epigastric erate. Epigastric tenderness

(7.) Hemorrhages from the No hemorrhagic tendency.

Tongue clean or but Tongue heavily coated; slightly coated; pulse variable, pulse varies little, remaining becoming slow in the last quick until convalescence sets

Eye and physiognomy not

severe; also pain in the calves headache moderate. and over the eyes.

(11.) Delirium rare; mind

generally clear.

(12.) Urine generally albuminous; suppression common.

(13,) Muscular prostration slight; convalescence rapid; no sequelæ.

(14.) Liver affected.(15.) Spleen not affected.

(16.) One attack affords an almost certain immunity.

(17.) Mortality very high. (18.)Peculiar smell often

perceptible.

(19.) Never merges into intermittent.

(20.) Treatment unsatisfactory; quinine useless.

(21.) Autopsies show great ceration and softening of the stomach. Liver enlarged, yellowish in color, its secreting enlarged. cells filled with oil globules. Heart often exhibits disintegration of the muscular fibres.

(10.) Pain in the back very | Rachialgia slight or absent;

Delirium frequent; mind always dull.

Albuminous urine rare; suppression also rare.

Much muscular prostration; convalescence slow; sequelæ various and tedious.

Liver not affected.

Spleen invariably affected,

One attack seems rather to predispose to others.

Mortality slight.

No peculiar smell observed.

Often merges into intermittent.

Quite amenable to treatment; antagonistic power of quinine beyond question.

Autopsies show congestion congestion, inflammation, ul- of the stomach, but rarely inflammation. Liver of an olive or bronze hue, not fatty. Spleen

The following are regarded as important corrections in the ahove table: (2) Colored people are less liable than the whites to both forms of fever, though the difference is greater in yellow fever. (3) The "yellow fever zone" has no existence in any rational definition of the word zone. The disease will prevail in any locality enjoying a prolonged high temperature, provided its specific infection has obtained lodgment through human intercourse. (6) The headache in yellow fever is rather frontal than occipital. (7) Hemorrhages occasionally are found in bilious fevers, from the nose, the stomach and the kidneys. (8) In vellow fever the edge of the tongue is usually reddened. The pulse, in adults after the first few hours, becomes full and soft. (9) In yellow fever the eyes become jaundiced, as well as most of the surface of the body. (10) Delirium is of bad import in yellow fever and insignificant in bilious fever. (13)

Muscular prostration is much greater in yellow fever than in bilious fever. (15) The same acid odor is developed in both fevers, when patients are well covered and made to perspire freely. (19) Yellow fever may be both preceded and followed immediately by intermittent fever in a strongly malarious locality.

To the above may be added this peculiarity of yellow fever, as observed in adults but not generally in young children: After the first few hours the pulse begins to decline in frequency and so continues till the subsidence of the disease, while the temperature rises from the beginning, generally culminating on the third day.

Another remarkable circumstance: Yellow fever has a peculiar and curious moral effect on practitioners who encounter the disease; for, whereas, in the treatment of other diseases physicians may be accounted competent witnesses in regard to their own acts; in yellow fever they fall into the utmost confusion and uncertainty in regard to the number of cases treated, the recoveries and the deaths, and particularly who was to blame for the latter. The worst feature of this complaint is the fact that it seems to be catching, for the doctor's friends are very sure to be affected just as he is.

It is certainly too much to expect that one should be qualified to judge disputed points in a subject of which he has no practical knowledge; but medical book-makers seem to suppose that yellow fever is an exception to this general rule. Its literature is a deep and stormy sea, named Chaos, wherein no one should try to wade that has not learned to swim. Here practice should take precedence of theory. He that would study yellow fever should begin by taking the disease in the natural way. This is the first lesson. Practice its results on others, and diligence will be rewarded by proficiency.

We should be glad to extend this notice to other subjects treated in the book, but must not trespass further on the space of the JOURNAL or patience of its readers.

Modern Medical Therapeutics; A Compendium of Recent Formulas and Scientific Therapeutical Directions, from the practice of eminent contemporary physicians. American and foreign. By Geo. H. Napheys, A. M., M. D., Etc. Sixth edition, enlarged and revised. 8 vo., pp. 607. Philadelphia: D. G. Brinton. 1879.

It is quite superfluous to make anything like an extended notice of a work now so well known by the reading portion of the medical public, or to commend a book which reaches its sixth edition in a few years. The novelty of its plan of arrangement carried real advantages, which have been favorably received and are retained in the present edition; that is to say, the treatment of the disease in question is first detailed according to the methods of several eminent physicians, both in private and hospital practice, and then a résumé is given of the principal remedies employed, those especially approved being designated by an asterisk.

Of course such a book should be used with judgment, like a sharp tool, and not be followed with the same implicit faith as a manual of religious devotion. With this precaution, it will prove highly convenient and useful to the practitioner, whether young and untried, or busy and experienced.

S. S. H.

Organic Materia Medica and Pharmacal Botany; Comprising the Vegetable and Auimal Drugs; Their Physical Character, Geographical Origin, Classification, Constituents, Doses and Adulterations, etc. Table of the tests and solubilities of the Alkaloids appended. By L. E. Sayre, P. H. G. Philadelphia: D. G. Brinton, 115 South Seventh street. 1879, 8. vo., pp. 210.

This work is intended to present in clear and sharply defined descriptions the physical characteristics of drugs, botanica classification and geographical origin.

No work of the kind we have ever seen accomplishes so much in its limited space, nor presents them in a better aspect.

The chart of Botanic Materia Medica commencing the work is a mine of information, presenting the following points: natural order, official name, common name, habitat, part used, constituents, medical properties, dose and officinal preparations of each drug.

Following this we have the geographic grouping of drugs. The portion of the work devoted to structural botany and botanical arrangement of plants is thoroughly systematic and is attractive and instructive.

Drugs are now taken up and presented to the reader without regard to their medical properties but according to the part used, viz.: as roots, rhisomes, tubes, bulbs, stems, woods, leaves, gums, etc.

Animal drugs, as musk, cantharides, ox-bile, etc., are considered in regard to this physical characteristics. The book closes with a table of vegetable antidotes and incompatibilities, and a table of alkaloids, giving tests, solubilities, etc.

The book bears the impress of great labor, and to the student is highly recommended as presenting salient points of great interest.

The make-up of the book is highly complimentary to its publisher.

Diseases of the Bladder and Urethra in Women. By Alexander J. C. Skene, M. D., Professor of Diseases of Women in the Long Island College Hospital; Fellow of the American Gynecological Society, etc. New York: William, Wood & Co., 1878. New Orleans: Armand Hawkins, 199½ Canal street, 8 vo., pp. 374.

The surprise to us is how our author can restrict himself to the organs under consideration, and yet write so large a book. We are forcibly reminded of the journey of the Israelites from Egypt to the land of Canaan, when in our younger days we tried to reconcile the forty years' journey with the short distance between the places.

As may be expected, the work is most complete, and the subject matter is presented to the reader in the form of lectures, both pleasant to read and instructive to study.

The anatomy of the organs is fully detailed, and their diseases and malformations taken up in a systematic manner. The chapters on cystitis interested us very much, and if we have to complain of any one point it is in the great dread the author has of injecting nitrate of silver into an inflamed bladder. We have seen concentrated solutions of this salt frequently introduced with the greatest benefit, and the rapidity of its decomposition by the chlorides in the urine is an argument that weak solutions are of little service.

The publishers have spared no pains to present the work in a very creditable manner. The printing and binding are artistic, and the paper is fine.

Rest and Pain. A course of Lectures on the influence of Mechanical and Physiological Rest in the Treatment of Accidents and Surgical Diseases, and the Diagnostic value of Pain. Delivered at the Royal College of Surgeons of England in the years 1860, 1861 and 1862. By John Hilton, F. R. S., F. R. C. S., etc. Edited by W. H. A. Jacobson, F. R. C. S., Assistant Surgeon to Guy's Hospital. Second edition. New York: William Wood & Co. New Orleans: Armand Hawkins, Crescent City Book Subscription House. 199½ Canal street. 8 vo. pp. 299.

The prospectus from the enterprising publishers, William Wood & Co., announces that the medical world are to have a supply of medical works offered them at a price that to us seems marvelously low. They have commenced with the volume before us as the first number of "Wood's Library of Standard Medical Authors;" twelve volumes, each from an author of recognized worth, will be issued during the year 1879, and subscribers to the series will be charged but \$12 00, payable on delivery of the first volume. They will then reach subscribers post paid. Should the payments be made \$6 00 semiannually in January and July, there will be express charges on January and July numbers. By paying \$1 25 per month the volumes will be delivered free of charge.

Volume 1, of the series, is worthy of the place as first in order of production, and the lessons taught by Professor Hilton cannot fail to instruct the practitioner as to the value of rest. The lectures are clear and forcibly given in simple but beautiful language. The clinical experiences abundantly illustrate the teachings, and the wood cuts, with which the work abounds, add no little to its value. From the first page to the last, practical methods of instruction are followed. Had we the

space we would be glad to note the contents of the work, but being unable to do so we can only say subscribe and read.

The make-up of the volume is good. The printing and paper fair, and its price cheaper than any work of the kind we have ever seen.

Transactions of the New York Pathological Society. Based on the Proceedings for the year 1875, and largely Supplemented from the Records of 1844 to 1877. Edited by John C. Peters, M. D. New York: William Wood & Co. New Orleans: Armand Hawkins, 199½ Canal street. 2 vols., 8 vo.

The volumes before us are especially interesting. They contain an account of the origin and progress of the society; illustrating the success attending the labors of a few members of the profession. For the organization was started in 1844, and its first public meeting was held on the 14th of June of that year. Among the founders we note well known names—Sayre, Peters, Parker, Alonzo Clark. The membership in 1844 numbered 23; in 1846 the number of names added was 33. The society was a success, and an idea of the amount and character of the work accomplished is seen on glancing through the pages of Transactions. The roll of all members to 1875 is published.

Dr. Peters has spared no pains in presenting the work in attractive form. The specimens presented are classified and descriptions given full enough to convey a correct idea of the pathological condition, and often the history of the case is given and the post mortem examination recorded. The first volume records specimens of pathology of the nervous system, organs of respiration, circulation, digestion, the genito-urinary organs, osseous and glandular systems, diseases of special senses, skin, etc. Volume second is devoted to the descriptions of pathological specimens from intestines and abdominal organs.

The volumes come from the publishers' hands well bound, clearly printed on heavy paper and sustain the reputation of the house for good workmanship.

# METEOROLOGICAL REPORT FOR DECEMBER, 1878.

***************************************	Т	EMPERATUI	RE.	l er	ity	
Day of Mouth.	Maximum.	Minimum.	Range.	Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	62 57 65 67 64 69 66 68 65 57 69 70 69 67 59 54 52 51 57 59 57 59 57 44 45 41	47 45 43 46 48 45 55 59 45 40 44 52 53 50 44 47 37 38 37 42 43 44 45 45 46 44 45 46 47 48 48 48 48 48 48 48 48 48 48	15 12 22 21 16 24 11 09 20 17 25 18 16 17 15 17 16 15 09 14 14 18 22 17 11 13 11	30.073 30.174 30.147 30.166 30.322 30.203 30.068 29.860 29.772 29.926 30.080 30.247 30.121 29.953 30.087 30.207 30.315 30.405 30.333 29.944 30.064 30.351 30.210 30.253 30.238 30.086 30.371	67.7 60.3 56.0 50.3 42.7 59.7 89.0 74.7 58.7 70.0 71.7 80.0 90.7 54.7 56.7 64.3 79.3 51.3 56.0 90.7 68.3 84.7 68.7	.15 .00 .00 .00 .00 .53 .56 .30 .00 .00 .10 1.24 .00 .00 .41 2.46 .17 .00 .00 .57 .04 .50
28 29 30 31	43 61 62 55	27 38 49 46	16 23 13 09	30.368 30.167 30.205 30.120	68.7 89.7 91.0 90.3	.00 .00 .22 .69
Mean	58.87	42.87	6.00	30.156	70.5	Total: 8.59

#### MORTALITY IN NEW ORLEANS FROM DECEMBER 31 TO JANUARY 26, 1879, INCLUSIVE.

Week Ending.		Yellow Fever.		Consumption.	Small- pox.	Pneu- monia.	Total Mortality.
January	5	0	2	7	0	10	68
66	12	0	0	12	0	12	124
66	19	0		22	0	22	142
66	26.	0	1	23	0	18	128
Totals		0	3	64	0	62	462

# NEW ORLEANS

# MEDICAL AND SURGICAL JOURNAL.

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## ORIGINAL COMMUNICATIONS.

V

#### Yellow Fever Epidemic of 1878 in New Orleans.

By JOSEPH JONES, M. D.,

Professor of Chemistry and Clinical Medicine, Medical Department, University of Louisiana, Visiting Physician of Charity Hospital, New Orleans.

(Extract from Clinical Lecture, delivered in the Amphitheatre of the Charity Hospital January 8th, 1879. Reported for the New Orleans Medical and Surgical Journal.)

(Continued from February Number.)

FIRST RECOGNIZED CASE OF YELLOW FEVER IN THE CHARITY HOSPITAL, NEW ORLEANS, EPIDEMIC OF 1878.

As far as my information extends, the first recognized case of fellow fever in the Charity Hospital, during the epidemic of 1878, was as follows:

Frank Walsh, laborer, native of Ireland, age 36; had been working at the jetties at the mouth of the Mississippi river; came to New Orleans about the 10th of July, and entered the Charity Hospital July 18th, 1878. He appears to have been attacked with fever on the 15th of July. Was assigned a bed in Ward 30; in the medical service of Dr. Henry John Francis Steinau, my chief of clinic.

July 18th, 1878.—Condition on admission, muscular and nervous prostration; cephalalgia, intense pain in back and extremities; anorexia, nausea, vamiting; tongue coated with white and yellowish fur in centre, and red at tip and extremities.

A. M., temperature 105°, respiration 40; pulse 108 and bounding; conjunctiva red and face flushed; capillary congestion of face and extremities. P. M., pulse 126; respiration 36; temperature 104°.75. July 19th.—Condition much the same; thirst excessive; abundant perspiration; delirium; jaundice; temperature 103°.5; pulse 108; respiration 28. Died July 19th, 3 o'clock, P. M. After death the body presented an intensely yellow jaundiced hue, with mottling of the integuments of the lower extremities and dependent portions of the body. Dr. Steinau brought the viscera to my office, and I subjected them to careful microscopical and chemical examination with the following results:

Heart.—Yellow, flabby appearance. Fibres of heart readily crushed between the fingers. Under the microscope the fibres of the heart were found to have lost to a great extent their distinct transverse marks, and were loaded with oil globules and fibrinous granules. These granules were not micrococci, but were minute oil globules and particles of altered fibrin, albumen and musculin.

Liver.—Of a mottled yellow and brown color; portal capillaries conjested. Under the microscope the liver presented the appearance of acute fatty degeneration. Liver cells loaded with oil globules. The liver presented the appearance characteristic of yellow fever.

Stomach.—Mucus membrane, intensely congested. This viscus contained about six ounces of dark altered blood—black vomit. Under the microscope the black vomit from the stomach contained numerous bacteria, the spores and thallus of a small delicate Torula, Rotatoria, altered blood corpuscles, brown masses of hæmatin, mucus cells, and corpuscles, and broken capillaries.

In the month of July, 1878 (from 21st to 31st inclusive), 37 whites were admitted into Charity Hospital with yellow fever, of which number 20 proved fatal. August, 363 cases and 203 deaths; September, 292 cases and 145 deaths; from the 1st to the 26th October, 87 cases and 35 deaths; total, July 21st to October 26, 779 cases, and 403 deaths. The mortality amongst the whites suffering with yellow fever in the Charity Hospital was therefore over fifty per cent.

No blacks suffering with yellow fever, were admitted in July; in August, 15 cases and 4 deaths; September, 14 cases and 2 deaths; October, 9 cases and 2 deaths. Total: 38 cases and 8 deaths.

Therefore, the total number of cases treated in the Charity Hospital during the period specified was 817, with 411 deaths.

According to the statistics compiled by Messrs. Dunlap and Parham, resident students of the Charity Hospital, of the total number of cases, 135 were contracted in the hospital, the patients being under treatment for other diseases at that time; 57 of these cases were fatal. Included in the above 135, were the house snrgeon, assistant surgeon, 6 Sisters of Charity and 10 resident students:—3 Sisters of Charity and 1 student died from yellow fever.

These statistics differ from those recorded by the clerk in the hospital books. Thus, the total monthly deaths from yellow fever and all causes, were as follows: July, yellow fever 11, all causes 77; August, yellow fever 169, all causes 240; September, yellow fever 176, all csuses 236; October, yellow fever 54, all causes 97; November, yellow fever 15, all causes 65; December, yellow fever none, all causes 49. Total deaths during the preceding six months from yellow fever 425; total deaths from all causes 764. Total cases of yellow fever discharged from the hospital as cured 345. According to this record, the total cases of yellow fever treated were 770; it is evident, however, that this statement leaves out those cases occurring in the hospital as supervening diseases. During the entire year of 1878, there were in the Charity Hospital 1120 deaths and 4615 discharges; remaining from 1877, 600. Total cases 6335. Yellow fever, therefore, caused in the Charity Hospital less than one-half the total mortality from all causes.

On the 22d of July, 1878, I received the following note from Dr. J. D. Hunter:

DR. JOSEPH JONES:

Dear Sir—A case of yellow fever on Robinson street, near Common. Please look at it.

J. D. HUNTER, M. D.

July 22, 1878.

This case died with black vomit and hæmorrhage from the bowels. By my advice, this case was reported to the Board of Health, as one of yellow fever.

Dr. Hunter furnished me with the following facts with reference to the history of this case:

James Stanley, age 28, native of Ireland; had been in New Orleans 10 years. Laborer in Gas Works; residence, Robinson, second house from Common.

Had visited a relative on Erato street, about two weeks before his attack—with this exception, had not been away from the immediate vicinity of the Gas Works. Died July 22d, with black vomit and hæmorrhage from stomach and bowels. Died in convulsions on the 5th day of disease. Body very yellow after death.

The cases which I subsequently attended on Villere street, in this vicinity, appear to have originated from this case.

On the 24th of July was called to Miss F. Been, age 19, native of England, resident of New Orleans 9 months, at 12 North Rampart street. Has been throwing up black vomit since the 23d of July. Threw up large quantities of black vomit in my presence. Black vomit examined microscopically, exhibited bacteria, a delicate fungus resembling the Torula cerevisiae, and fungi in various stages of development, altered blood corpuscles and fragments of hæmatin, mucous corpuscles, broken capillaries, casts of mucous folicles, and patches of mucous membrane. The urinary secretion had been very scant for twenty-four hours; obtained however from the patient, one fluid ounce of dark urine, which upon examination was found to be loaded with albumen, and with granular casts, and with some altered blood corpuscles. The casts of the tubuli uriniferi were impacted with detached cells, yellow granular matter oil globules, and bodies resembling micrococci; also the urine contained epithelial cells from the whole track of the urinary apparatus, also bacteria and rotatoria.

I pronounced the case one of yellow fever, and so reported it to the Board of Health. The mistress of the house was informed as to the nature of the disease, and I also expressed the belief that the patient would die during the following 12 or 24 hours. At the time of this observation the pulse was 96, the temperature 102°, pulse small and feeble. Intense jaundice. The patient had several spasms and died at 8, A. M. July 25th. Examined the body after death and found it of a brilliant yellow color, with the more dependent portions of a mottled, purplish, yellowish appearance. The features were swollen, and black vomit streamed slowly from the corners of the month.

The Board of Health caused the disinfection of the house and surrounding streets and gutters, with carbolic acid.

Upon careful inquiry I found that this patient (Miss J. Been) had been attacked with yellow fever on the 19th of July, and that she had been treated by a physician for ordinary bilious fever.

On the 27th of July, I was called to see J. R. Hall (age 35, native of Pa., resident of New Orleans 10 years), at 31 Gasquet street, and found that he had been attacked with fever on the 23d of July. Saw this patient for the first time July 27th, 10, A. M. Pulse 110; temperature of axilla 106°, F.; delirium, juandice, nausea, great capillary congestion. The high temperature, restlessness and vomiting, with great congestion of the capilaries continued up to the moment of death, July 30th.

A glazier by the name of Samuel Cohn, was taken sick with fever on the 7th of July, at the corner of Gasquet and Marais streets; was transferred to the Touro Infirmary and was treated by Dr. Loeber, who pronounced his case to be yellow fever. About the same time a man named Walter, a companion of Cohn, was seized with fever at 48 Gasquet street, just across from the residence of the latter, and about eight doors further down than the house of Hall. These cases constituted another foci of disease. It is worthy of note that the men, Cohn and Walter, were in the habit of frequenting gambling saloons, and the former informed me that it was his belief that he and his companion contracted vellow fever at a Keno house. No. 32 Royal street. About three days before their illness, they "sat down to play in company with three sailors, one of whom had a fearful bad smell." The child of Walter took the disease and died.

I was called to cases in rapid succession in various portions of the city—on Robin, Orange, Rampart, Basin, Villere, Conti, Magazine, Perdido, Franklin, and other streets.

POLISH EMIGRANTS IN THE COMMERCIAL HOUSE, CORNER OF GIROD AND PETERS STREETS.

On the 12th of August, 1878, I inspected the Commercial House (corner of Girod and Peters streets,) and gathered the following tacts:

The schooner Paul Slavey, Captain Young, arrived at the port of New Orleans April 26th, 1878, from Laguyra, Venezuela, South America, with 262 German-Polish emigrants. These Polish emigrants had resided in Venezuela about fifteen From information gathered in the Commercial Hotel, and also from the agent of the German Society, we learned that the emigrants arrived in good condition and health, and without any sickness among them. For several days after their arrival they were taken care of by the German Society, and afterwards placed in the hands of the Louisiana State Immigration Bureau, and were by the officers lodged in the Commercial Hotel, and supplied with clothes and food. In this latter work Major Burke was active. At the end of a week the greater portion of the Polish emigrants were sent by the Louisiana State Immigration Bureau to three different plantations in the parish of St. Mary. Seven families, composed of about twenty-eight souls, remained in New Orleans, quartered in the Commercial Hotel. The adult members appear to have supported themselves by making and selling baskets through the city. On the 12th of August, at the time of my inspection, I found only one family remaining in the Commercial House. As far as my information extended, Dr. Cullen was called to see a woman about the 24th of July, who had just been delivered of twins and who was suffering with fever, black vomit and profuse uterine hemorrhage. Upon inquiry, Dr. Cullen ascertained that there was at the time of his visit, another case of yellow fever in the Commercial House. The woman delivered of twins, died during the night of the

24th. She was probably first attacked with yellow fever about the 20th of July. Cases of yellow fever then followed in rapid succession in the Commercial House and in the neighboring sailor boarding houses, so that on the 12th of August, I found only 11 persons alive in the Commercial House; nine had died of yellow fever in the hotel, and five in the Charity Hospital, and three still remained under treatment in the latter institution. It would appear therefore, that 28 souls were left in the Commercial House from the main body of the Polish emigrants, and of this number, one-half, or 14, had perished by yellow fever up to August 12th. At the time of my inspection the bedding and old clothes were burning in the court of the hotel; the smell which pervaded the entire house was disgusting and produced headache, nausea and loss of appetite. On the 17th of August, 5 days after the inspection, I was seized with intense pain in the head and back and was prostrated by a violent fever. My temperature reached 1040.5. Quinine appeared to arrest the progress of this fever; 100 grains were taken by me in about 48 hours. At the end of nine days I resumed the practice of medicine.

INSPECTION OF SAILORS' BOARDING HOUSE, No. 22 GIROD STREET, IN WHICH ELLIOTT, THE ENGINEER OF THE EMILY B. SOUDER LAY SICK, AND FROM WHICH HE WAS TRANSFERRED TO THE HOTEL DIEU.

The boarding house No. 22 Girod street, was kept by Mrs. Celia Eagan, and upon my inspection on the 13th of August, 1878, I gathered the following facts: Tom. Elliott, the engineer of the Emily B. Souder, was sick in this house about the 22d of May, with what the attending physician and the boarding house keeper, regarded as intermittent fever, from which the man is said to have suffered the preceding year. He was sent in a cab to the Hotel Dieu May 29th. He is said to have been intemperate.

No other case of fever occurred in this house. No other case of fever occurred in this neighborhood, for more than one month. I was most careful in my inquiries on this point, interrogating river pilots, tugboat men, boarders and boarding house keep-

ers in this neighborhood. At the time of my inspection of 22 Girod street, there were present 7 boarders, all in good health, and none of the boarders had been affected with yellow fever, up to August 13th.

The son of Mrs. Eagan affirmed that he had slept in the same room and in the same bed with Elliott during his illness, and had experienced no ill effects, although he had never had yellow fever.

THE SECOND CASE FROM THE STEAM-TUG CHARLIE B. WOODS.

We have seen that Mr. Caven, the engineer of the steamtug Charlie B. Woods, was attacked with yellow fever nineteen days after the commencement of the illness of his mother-inlaw, five days after that of the Kirtz child in the adjoining house, and two days after, that of his son Lee.

No other cases of yellow fever appear to have occured amongst the crew of this boat (consisting of 30 men, many of whom had never had yellow fever), until the 8th of August. This case was as follows:

Forty-four Girod street, Sailors' boarding house; John Hadley, age 23, in New Orleans 9 years; from crew of tugboat Charlie B. Woods; attacked with severe pain in head and back, and high fever; August 8th, 12 M., disease well marked yellow fever. Recored.

The first case of yellow fever in this house (44 Girod street), was that of Maggie Duft, who died with black vomit, on the 6th of August, after an illness of 4 days. This case is said to have been treated by Dr. Cullen.

In the early part of August, I had cases of yellow fever in the various sailor boarding houses at the head of Girod street, as at 54 and 55, and also in the crowded tenements bordering on the St. Mary's Market, on St. Joseph, North and South, Market and Tchoupitoulas streets.

. Such facts, therefore, enabled me to trace no connection between the cases on Constance street and the steam-tug C. B. Woods, and through it to the E. B. Souder, nor between the case of Elliott and the cases occurring at the head of Girod street.

#### MEXICAN CIRCUS.

It was surmised by some, that the fever had been introduced from Mexico, by a circus which arrived about the close of of June in New Orleans from that country.

Careful inquiries at the City Hall and in other directions, have established,

1st. The Mexican Circus was organized in a mountainous region of country, where yellow fever is unknown.

2d. The Mexican Circus reached New Orleans by rail, passing through regions in which yellow fever was unknown.

3. The Mexican Circus was in good condition and free from disease at the time of its arrival in New Orleans.

We exclude in like manner, this foreign source of disease. I was aided in my inquiries with reference to the Mexican Circus and Polish emigrants, by Mr. James Zacharie, of the City Hall, as will be seen from the following letter:

NEW ORLEANS, January, 1879.

#### DEAR DOCTOR:

Being unable to obtain the desired information earlier, I have delayed answering your letter until to-day.

1st. The Mexican Circus of Torrea Rea arrived in this city from Brazos Santiago, Texas, via Morgan City, per steamship Harris, about the end of June. Their tent was erected on the corner of Rocheblave and Canal streets, and their first permit for a performance was issued by the city on July 3d. They subsequently performed at the corner of Orleans and Bourbon, at the New Lake End, and in several other parts of the city.

2d. This circus company was organized at Zaccatecas, a city in the interior of Mexico, which yellow fever never reaches. Subsequently they performed at Saltillo, Monterey, Matamoras, and embarked at Brazos Santiago.

3d. They left here on a steamboat about August 16th, and the last heard of them, was at St. Louis.

I could not learn of any one of the troupe having the yellow fever.

4. In regard to the Polish emigrants, Mrs. Hendrick (now at No. 104 St. Charles street), formerly in charge of the Commercial Hotel, told me they arrived here from Venezuela in March. That part of them went to the country, but returned a month later, sick with swamp fever, and subsequently the yellow fever broke out among them, and many died. These people came here on a small schooner, and were destitute, being the remnants of a Polish colony in Venezuela. When they arrived, here, they were starving, and they were cared for by charitable persons. They were sick with swamp fever fully two months before the yellow fever broke out in the vicinity of the Commercial Hotel.

I have given you all the information I could obtain, and will be happy to be of service to you in getting anything more you may require on the subject.

Yours truly,

JAMES ZACHARIE.

Prof. Joseph Jones, 495 St. Charles street.

The yellow fever of 1878, sprang up in the month of July, simultaneously in widely separated portions of New Orleans. This has been shown even by my own limited experience, and will be still further illustrated by the following record of my private practice during the early period of the epidemic of 1878, giving the localities and dates of the cases treated:

Date and Location of the first 60 Cases of Yellow Fever treated by Joseph Jones, M. D., in New Orleans during the Epidemic of 1878. The Deaths were relatively more numerous during the earlier periods of the Epidemic. The total Cases treated up to the 5th of October, 256; total Deaths, 18. 1 Death in 14.2 Cases 7.0 per cent. Mortality.

ber, 256; total Deaths, 18. 1 Death in 14.2 Cases 7.0 per cent. Mortality.								
No of		}	Į		Time in		1	Date of
Cases	Acro	SOF	Dogo	Nativity.		Place of Residence.	Populta	
Cases.	Age.	DOA.	nace.	Madivity.	и. О.	race of residence.	results.	Attack.
-	an	73	777	77	10/ 3	199 0	D 11	T 00
1	63		W.	Ky.	17 days	122 Constance	Recov'd	
2	21		W.	N.O.	Birth	124 Constance		July 13
3	6	M.	W.	Penn.	3 years	122 Constance	Recov'd	July 16
4	30	F.	W.	Ky.	3 vears	122 Constance	Recov'd	July 18
5			W.	Penn.		122 Constance	Recov'd	
6			W.	Tenn.		122 Constance	Recov'd	
7	22		w.	Penn.		120 Constance	Recov'd	
6								
8	19		W.	Eng.		12 N. Rampart		July 19
9	35		W.	Penn.		31 Gasquet		July 23
10	16		W.	Italy.	14 years	Common & Cl'b'ne	Recov'd	July 26
11	16	M.	W.	Miss.	10 years	167 Orange	Recov'd	July 27
12	19	M.	W.	Ala.	5 years	163 Robin	Recov'd	July 25
13	21	F.	W.	Tenn.		31 N. Basin	Died	July 28
14	30		W.	Canada.		166 St. Charles	Recov'd	
15	36		w.				Recov'd	
				Ky.		258 St. Andrew	Decemid	July 21
16			W.	N. O. N. O.			Recov'd	
17	20		W.		Birth	Baronne n Common		
18	25		W.	La.	10 years	51 Camp	Recov'd	
19	• 5	M.	W.	N.O.	Birth.	47 Robinson	Recov'd	Aug. 1
20	25	F.	W.	Ala.		163 Robin	Kecov'd	Aug. 3
21	54		W.	N. Y.		204 Liberty	Recov'd	
22	44		W.	Miss.		44 S. Villere	Recov'd	
23	19		W.	N. O.			Recov'd	
24	50		W.	N. O.		105 Howard	Recov'd	
25	30		W.	N. O.		140 Felicity	Recov'd	
26	22	F.	W.	Ala.	4 years	163 Robin	Recov'd	Aug. 6
27	60	M.	W.	N. O.	Birth	46 S. Villero	Recov'd	Aug. 4
28	8	F.	W.	N. O.	Birth	46 S. Villere	Recov.d	Aug. 6
29	16		W.	N. O.	Birth	46 S. Villere 46 S. Villere	Recov'd	
30	11	F.	w.	N. O.	Birth	46 S. Villere	Recov'd	
31	8		W.	N. O.	Birth	363 Magazine	Died	Aug. 8
32	6		W.	N.O.	Birth	St. Mary & Car'nd't	Recov.q	Aug. b
33	8		W.	N. O.		214 Conti	Recov'd	
34	30	F.	C.	Ga.	3 years	St. Charles & J'ks'n	Recov'd	Aug. 2
35	5	M.	C.	N. O.	Birth	98 Perdido	Recov'd	Aug. 7
36	28		W.	N. Y.		98 Perdido		Aug. 7
37	23		W.	Eng.		Lugboat C. Woods		
38			W.		10 years	55 Cired	Recov'u	Ang 8
	25				13 years	55 Girod		
39	25		W.	Ind. Ter.		363 Magazine	Recov'd	
40	13		W.	N. O.		88 Annunciation		Aug. 10
41	25		W.	Ireland.	Il years	51 Girod	Recov'd	
42	30	M.	W.	W. Va.		363 Magazine	Died	Aug. 12
43			W.	Miss.		363 Magazine		Aug. 12
44	9	M.	W.	N.O.	Birth	149 Terpsichorc	Recov'd	
45	18		W.	Mo.		52 St. Joseph	Recov'd	
46			W.				Recov'd	
				N. O.		82 St. Joseph		
47	33		W.			57 Girod	Recov'd	
48	48		W.	S. C.		163 Robin	Recov'd	
49	3		W.	N.O.	Birth	88 Annunciation	Recov'd	Aug. 16
50	15	F.	W.	N. O.	Birth	88 Annunciation	Recov'd	Aug. 16
51	10	M.	W.	Ala.	4 vears	163 Robin	Recov'	Aug. 10
52	20		W.	N. O.		424 Magazine	Recov'd	
53	1	F.	W.	N. O.		424 Magazine	Recov'd	
54	30		W.	Italy.		265 Chartres	Recov'd	
55	6	4.5	W.	N.O.		167 Orange	Recov'd	
56		F	W.	N.O.		167 Orange	Recov'd	
57	11	F.	W.	N. O.	birth	212 Conti	Recov'd	Aug. 24
58	8	F.	W.	N.O.	Birth	212 Conti	Recov'd	Aug. 26
59			W.	N. O.	Birth	212 Conti	Becov'd	
60			W.		Birth		Recov'd	Aug. 29
00	-							

In the preceding table, 60 cases first treated, are recorded, of these, 9 proved fatal. As the epidemic progressed, it became less fatal. Thus, of 196 cases treated chiefly during the month of September, and up to the 6th of October, when I was disabled by severe and painful illness from continuing my labors, only 9 (nine) proved fatal. The mortality, therefore, amongst these 256 cases treated by me during the epidemic of 1878, was 18, or 1 death in 14,2 cases or a mortality of 7.0 per cent.

From the preceding statistics, I have excluded those cases which were undoubtedly of malarial origin, and presented distinct intermissions and remissions, and universally recovered.

From the preceding investigations, no light was thrown upon the foreign importation of the disease; on the contrary, the facts developed appear to favor the view of the domestic origin of the disease; at all events no connection can be traced between the various local outbreaks, occupying a belt at least, two miles in length, and the two cases said to have been engendered on board the steamship Emily B. Souder. The connection of these cases with the subsequent and simultaneous explosions in different portions of New Orleans, can be connected neither in space, nor in time.

### VALUE OF DISINFECTION AS PRACTICED IN NEW ORLEANS FOR THE ARREST OF YELLOW FEVER.

All credit should be given to the patriotic motives of the presidents and officers of the Board of Health, who have endeavored to arrest, and even to "stamp out" yellow fever in New Orleans, and a very brief review of disinfection, and especially of "carbolic acid" disinfection in New Orleans, may prove at once of interest and profit to you as medical students.

Carbolic acid appears to have been first used for the arrest of yellow fever and as a disinfectant during the epidemic of 1867, under the direction of Dr. S. E. Smith, President of the Board of Health. He is dead. He once held a high position in the medical service of the Confederate army, and after his residence in New Orleans, died in Texas.

In order to demonstrate the effect of disinfection I will give you a short outline of the record of the yellow fever in this city since 1866:

1866—The mortality was 185 and almost entirely confined to persons unacclimated and recently from unacclimated countries.

In 1867 the yellow fever appeared in June. The first case died on the 10th of that month at the Charity Hospital. The Board of Health was unable to connect the origin of the disease to infection from without the city. The fever did not acquire epidemic proportions until about the middle of August. In his official report Dr. S. E. Smith states every house where a death occurred was, under the direction of the health officers, cleaned and fumigated with sulphurous acid gas, and disinfected with carbolic acid. The premises were also purified and the vaults disinfected with sulphate of iron. Notwithstanding these measures the disease became epidemic, an immense number of cases occurred, and 3107 deaths were reported as directly caused by yellow fever, in addition to 990 deaths caused by the various paroxysmal and continued fevers.

Very few persons liable to the disease, escaped an attack, but the mortality, relative to the number of inhabitants, was very small. The number of subjects for yellow fever was large, from the fact that there had been no epidemic since 1858, and all the children under nine years of age were susceptible. The low rate of mortality in that epidemic was attributed by Dr. Smith to the cessation of emigration from Europe and the increase of the negro population, in whom the ten-

dency of the disease is to recovery.

1869—Only 3 deaths from yellow fever were reported, 1 in

July and 2 in October.

1870—During the summer and autumn the deaths from yellow fever reported to the Board of Health numbered 587. It is worthy of note that other fevers caused 594 deaths; so that the total number of deaths from fevers recorded was 1178, and of these 241 were ascribed to pernicious and congestive fevers.

A marked peculiarity of the disease was the rapidity with which it increased in the first five weeks, showing its tendency to become epidemic; after reaching the climax the change was gradual. The weather for a month prior to the appearance of fever in 1870 had been very warm and sultry, and the nights particularly close and oppressive. After the disease had made some progress the atmosphere became exceedingly dry, and at the time when the mortality had reached the maximum, cold winds prevailed from the north, while the sun was hot, and the dryness increased. There was no rain for six weeks.

It has been urged that the singular course of the fever was due mainly to these climatic causes. According to the published report of Dr. White, President of the Board of Health, all such disinfectants as chlorine gas, carbolic acid, sulphurous acid gas and lime were freely used. Dr. Albers, Sanitary Inspector of the Second District, where 399 deaths occurred out of 587 in the entire city, was especially active in the application of the carbolic acid. He was a strong advocate of its

efficiency in checking yellow fever. Notwithstanding the copious use of carbolic acid, the monthly mortality from yellow fever was as follows: August, 3; September, 231; October, 242; November, 106; December, 5; total, 587.

Thus, in spite of the employment of disinfectants, the yellow fever seems to have followed its usual course, with a certain period of increase, succeeded by a certain period of decrease.

1871—The first case of yellow fever reported died in the Charity Hospital August 4th; the second August 20th, after 5 days' illness; the third September 5th, after 6 days' illness. In July, 1 case, 1 death; in August, 2 cases, 2 deaths; in September, 37 cases, 9 deaths; in October, 53 cases, 22 deaths; in November, 33 cases, 19 deaths; December, 2 cases, 2 deaths. The total number of cases was 114; total deaths 54. The large mortality was reached among these sporadic and disinfected cases of 47.3 per cent., or 1 death in 21 cases. The disease was confined chiefly to the Fourth District. It has been claimed that the limited spread was mainly due to the use of carbolic acid. The fever manifested no tendency to spread either in this city or in other places where no disinfectants were employed.

1872—Only 83 cases and 39 deaths were officially reported. The deaths occurred as follows: In August, 1; September, 5;

October, 24; November, 7; December, 2.

On the other hand the so-called congestive fevers caused 165 deaths. The disease was widely spread over the city, but appeared late in the season and showed no tendency to become epidemic. 17 cases were reported in the First District, 4 in the Second District, 1 in the Third District, 59 in the Fourth District.

1873—The first case was traced to the bark Valparaiso, which had been disinfected at Quarantine Station and reached New Orleans June 26th. Of the 226 deaths from yellow fever only 68 were of Americans. There were out of 338 cases reported 226 deaths, as follows: July, 8 cases, 3 deaths; August, 40 cases, 19 deaths; October, 135 cases, 79 deaths; No-

vember, 22 cases, 17 deaths.

The president of the board states that fully 50 per cent. of the recoveries were not reported; many physicians did not report their cases. If this is true, why did not the yellow fever spread in those quarters where its existence was not brought to the notice of the board, and where no disinfection was practiced, assuming that the disinfection was efficacious, and that the disease was limited in its ranges? It is worthy of note that in 1873 the various forms of fever, exclusive of yellow fever, caused 763 deaths, of which 246 were from congestive and 109 from malarial fevers.

1874—11 deaths were reported as caused by yellow fever—2 in September, 6 in October, 2 in November, and 1 in December. 1875—Yellow fever caused 61 deaths; 5 in August, 24 in

September, 20 in October, 9 in November, and 3 in December.

In that year the following resolutions were passed by the Chamber of Commerce:

Resolved, by the Chamber of Commerce of New Orleans, That the system of disinfection to prevent the propagation and spread of infectious diseases in our city practiced with so much apparent success since 1870, should be continued and encouraged by the State and city authorities; also that the efforts of the Board of Health to prevent epidemics are approved and commended.

Be it further resolved, That this Chamber recommends to the present Legislature to grant authority to the Board of Health to permit, at its discretion, the passage of vessels from infected ports to the city after the same have been satisfactorily and thoroughly fumigated and disinfected, in lieu of the prescribed time—detention called for by the existing quarantine law.

1876-42 deaths were caused by yellow fever, as follows: In August, 1; in September, 19; in October, 17; in November, 4; in December, 1. I was informed by the late Dr. Gaudet, President of the Board of Health, that in 1876, the disease was of local origin and could not be traced to foreign importation. In that year I was a member of a commission composed of Dr. Joseph Scott and Mr. Rickey, appointed by the Chamber of Commerce, to visit Memphis, Galveston and Shreveport, for the purpose of raising the quarantine against New Orleans. It was held by the commission that the disease was sporadic in its nature that year and would not spread, and that there was no necessity for the establishment of quarantine. Both Memphis and Shreveport raised the quarantine. but Galveston declined to do so. Neither of the former cities suffered any detriment that season on account of their acquiesence in the views of the commission.

1877—But one death from yellow fever was reported, which occurred in November. This man passed the Quarantine Station.

The following table shows the mortality from yellow fever and the aggregate mortality from other fevers:

Years. Yellow fever. 1867	Other fevers.
1868	415
1869 3	412
1870	591 349
1871 54 1872 36	325
1873 226	763
1874 11	610
1875	614
1876	643 495
	100
Totals 4,131	6,307

In 1878, the yellow fever bid defiance to all the measures of disinfection, as is well shown by the following monthly tableau of deaths: May, 2; June, none; July, 50; August, 974; September, 1893; October, 1044; November, 90; December, 3: Total, 4056.

These numbers are below rather than above the actual deaths caused by the pestilence of 1878, for without doubt, many deaths from yellow fever have been entered upon the mortuary record as due to pernicious, remittent, malarial fevers. Such discrepancies are inseparably connected with the differences of views as to the nature, origin, pathology and symptoms of the various forms of tropical and sub-tropical fevers. The disease does not seem to have assumed epidemic proportions until about the middle of July. Immediately after the appearance of the disease, the Board of Health introduced as thorough a system of disinfection as was practicable. Large quantities of carbolic acid were used, whole areas of the city were disinfected, etc. The city was in bad sanitary condition, the weather intensely warm, the barometric pressure low, and the atmosphere loaded with moisture. The conditions were all favorable to the rapid spread of the disease. Cases occurred on Robertson, Villere, Constance, Girod and other streets. The spots were all thoroughly disinfected and surrounded with a cordon of carbolic acid. I am informed by Dr. Taylor, Secretary of the Board of Health, that during the month of July, 1470 gallons of pure carbolic acid, in addition to a considerable amount of Page's crude carbolic acid, were distributed in and around the infected localities.

It is my belief that the most strenuous efforts were made, under the direction of the President of the Board of Health, to arrest the propagation of the poison and prevent an epidemic; and that the Sanitary Inspectors performed their duties as faithfully as ever before in the history of the city.

It is also my belief that the quarantine was as rigid as ever before in the history of New Orleans. It seems possible, from the above facts, that the disease may have been imported and also of local origin. It appeared to be uninfluenced by disinfection, and advanced from house to house, and block to block, from the different foci of infection.

In considering the value of disinfectants for the arrest of yellow fever, it must be borne in mind that the disease has been absent for varying periods, and in many years it has prevailed only to a limited extent, in New Orleans.

Thus many writers have held that the disease was unknown in this city from its foundation, in 1717, to 1796, a period of 79 years, during which there was no quarantine, while at the same time there was unrestricted and frequent intercourse with the West Indies. We propose to examine this question at some future time, as its discussion would be out of the question in the limits assigned to this clinical lecture.

The following table has been constructed from the records preserved by Dr. Bennet Dowler, Dr. Edward H. Barton, Dr. Erasmus Fenner and others, and by the various Boards of Health. We will not now discuss the different estimates in certain years by different writers, the data being sufficient to show the absence and limited spread of yellow fever when no disinfection was practiced.

***					
Year.	Deaths from	Year.	Deaths from yellow fever	Year.	Deaths from yellow fever
1817	800	1839	800		92
1818	115	1840	3	1860	
1819	425	1841	1800	1861	
1820	400	1842	211	1862	
1822	808	1843	692	1863	
1823		1844	148	1864	6
1824	108	1845	2	1865	1
1825	49	1846	160	1866	185
1826	5	1847	2600	1867	3107
1827	109	1848	872	1868	3
1828	130	1849	769	1869	3
1829	900	1850	107	1870	587
1830	117	1851	17	1871	54
1831	2	1852	456	1872	39
1832	400	1853	7849	1873	226
1833	1000	1854	2316	1874.	11
1834		1855	2615	1875	61
1835			74		42
1836			200		1
1837		1858	4855	1878	4056
1838					

PRESENT SITUATION OF NEW ORLEANS AND OF THE MISSISSIPPI VALLEY WITH REFERENCE TO YELLOW FEVER.

In view of the horrible plague of 1878, which swept from New Orleans, up the valley, into the very heart of the continent it may well be asked if in the present condition of affairs, the Mississippi valley throughout its entire length has any protection against a recurrence of a similar calamity under similar climatic conditions?

Whilst the hope may be indulged that many years will elapse before such a combination of climatic causes, and especially the prevalence of a tropical summer over the greater portion of this immense valley shall occur; and whilst it may be held that the remarkable spread of the disease along the water courses, railroads, and other lines of travel, and the rapidity of propagation, have followed from the long continued heat and moisture of the Summer and Fall of 1878; at the same time it is manifestly the duty of the State of Louisiana, in virtue of the control which her situation gives to her of the navigation of the Mississippi and the relations of the valley to foreign and domestic ports, to investigate through her Legislature and municipal and sanitary officers, the entire subject, and to perfect a system of quarantine and sanitation in the shipping and within the port of New Orleans which shall in all respect correspond with the advancement of modern hygiene. The sympathy and the beneficent generosity of her sister States during her days of pestilence, as well as the futhre welfare of millions living along the banks of the Mississippi and its tributaries, demand that those charged with the conduct of the affairs of Louisiana should institute every known measure for the removal of the causes of domestic or foreign pestilence.

If it be found upon careful investigation that the State is unable to meet all the emergencies and expenditures required, then an appeal should be made to sister States and in the last resort to the General Government. Much may be accomplished by an improvement and enlargement of the quarantine facilities now possessed by the State. Thus by the first section of an Act of Congress entitled "An Act making appropriation for certain civil expenses of the government for the year end-

ing the thirtieth of June, 1858," approved March, 1857, the sum of fifty thousand dollars was appropriated for the construction of warehouses at Quarantine Station on the Mississippi river below New Orleans, provided, that no part of said sum shall be expended until the State of Louisiana shall pass a law ceding jurisdiction over the site of said warehouses to the United States, and shall grant to the United States the use of so much land as may be necessary for the construction of such warehouses, with water front, and privilege of the wharf now built or hereafter to be built in said station; therefore, in order to comply with said provision, and to carry the said law into full force and effect:

It was enacted by the Senate and House of Representatives of the State of Louisiana in General Assembly convened, and approved February 8th, 1858, by Wm. W. Pugh, Speaker of the House of Representatives, Wm. F. Griffin, President pro tem. of the Senate, and Robert C. Wickliffe, Governor of the State of Louisiana, "That the State of Louisiana does hereby cede to the United States jurisdiction over the site of such warehouses as shall be constructed under the Acts of Congress, approved the third of March, 1857, aforesaid, as Quarantine Station, on the Mississippi river, below New Orleans, and do hereby further grant to the United States the use of so much land as may be necessary for the construction of such warehouses; with water front, and privilege of the wharf, now built or hereafter to be built, on said station."

On personal inspection of the Mississippi Quarantine Station, I find that the warehouse constructed by the United States, in accordance with the Act of Congress approved third of March, 1857, is in need of certain repairs; and that the wharf has been rendered, by the action of the waters of the Mississippi river, and by the decay incident to all such structures near the mouth of this great river, wholly unfit for the discharge and proper disinfection of the cargoes of vessels infected with yellow fever, typhus fever, small pox, cholera, and other infectious and contagious diseases.

An expenditure of a sum not exceeding \$30,000 (thirty thousand dollars) by the general Government, or by the State of Louisiana, would be sufficient to construct the necessary

wharves at the Mississippi Quarantine Station for the speedy discharge and disinfection of the cargoes of infected vessels.

An expenditure of a sum not exceeding \$20,000 (twenty thousand dollars) would place the quarantine stations at the Rigolets and Morgan City in effective condition.

An expenditure of \$100,000 (one hundred thousand dollars) either by the State of Louisiana or by the General Government, would not only be sufficient for the construction of the necessary wharves, docks, warehouses and hospitals at the Quarantine Stations but it would also be ample for the purchase of the best disinfecting apparatus. The apparatus should consist chiefly of—

1st. Apparatus for the rapid removal of the bilge water and its replacement by water containing from 2 to 5 per cent. of carbolic acid.

2d. Apparatus for the rapid and thorough removal of the air within the ship.

3d. Apparatus for the rapid generation and injection of antiseptic gases, such as sulphurous acid and chlorine.

4th. Apparatus for the production of heat and cold within ships.

I have already in the pages of the New Orleans Medical and Surgical Journal discussed the value and mode of action of the various disinfectants which may be used for the arrest of contagious diseases and it will be unneccessary to dwell longer on the subject.

Not only should the cargo of the ship and the clothing and baggage of the crew and passengers receive careful attention and thorough disinfection at the quarantine stations, but as the danger of the importation of foreign pestilence may be lessened by the institution of efficient sanitary measures under the direction of competent officers on board the ships trading with New Orleans, it is important that a code of sanitary regulations should be promulgated to the officers of all ships and vessels holding commercial relations with this port.

Dr. Reid, of Edinburgh, during the debates of the Third National Sanitary Convention in the city of New York, 1859, held that it is desirable that a ship should be ventilated, that passengers should be detained, and also that vessels should not

be crowded; that such things should be looked to at the port of embarkation, and the proper precautions should be made at the port of arrival. It appeared to Dr. Reid, twenty years ago, that the subject of quarantine might be generalized very much and put upon a kind of international or cosmopolitan footing, because it is an object of very great importance not only that individual States should concur with what was desirable, but that quarantine regulations should be adopted to the commerce of the whole globe. If possible the questions relating to quarantine should be so agitated that such arrangements should be made as would promote the general public health at any and every port.

Dr. Reid said: "If you look to Boston on the one hand, and New Orleans on the other, and determine upon such regulations as can be applied and entorced at these ports, they might be sufficient also for all general cosmopolitan purposes, and then you would be enabled to obtain the assistance (if such assistance could be obtained) that foreign governments could give. and that such governments would also expect from this country. You will observe that this question is not a local one: it is a string, which, like other strings, has two ends, and you must pull at the ports of embarkation, as well as at the ports of arrival, in order to know what is necessary at the one and what is to be excluded at the other. If the diseases treated at quarantine were like a disease of a peculiar character that arose somewhere, no one knew where, presenting itself at the ports, and were to be judged and determined by quarantine arrangements at the port of arrival, then quarantine at the port of arrival would be the only subject of consideration; but if you are to be guided in what you do by the extent to which you are supported by hygienic measures and proper precaution at the port of embarkation, it is quite clear that anything that interests States, that point which unites the several members of this Convention from different parts of the Union, must also equally apply to and interest those who see the connection and relation of foreign governments to this question."\*

<sup>\*</sup>Proceedings and Debates of the Third National Quarantine and Sanitary Convention, held in the city of New York, 1859, pp. 68, 63.

By the various quarantine conventions in Europe, as that of Paris in 1850, and that of Constantinople some fifteen years later, an energetic impulse has been given not merely to the study of restrictive measures, but also to the still more important subject, the application of public hygiene to the prevention of epidemics at their source, in their homes and exotic cradles. For many years past hygienic measures for the prevention of the disease in ships trading with ports in which yellow fever prevails, have been proposed and instituted by the health officers (1) of the port of New York. Hygienic rules for the government of ships on their way from tropical ports, were issued in New Orleans by Dr. C. B. White (2) in 1875, by the late Dr. Felix B. Gaudet, in 1876, and by the the late Dr. George W. Peete of Galveston, Texas.

And while we are speaking, at this very moment, views similar to those of Dr. Reid of Edinburgh, are urged by the Yellow Fever Commission now holding its sessions in our city, and the project of the establishment of a National Quarantine is clearly outlined in their modes of inquiry, and conduct of the examination of witnesses,

Notwithstanding that we hold that Louisiana is competent to deal with the subject of quarantine, and that her medical men are more competent to deal with yellow fever than men foreign to her soil, institutions and interests; at the same time, in the event that the State of Louisiana fails to investigate the entire subject, and to perfect a system of quarantine and civic hygiene, in accordance with the requirements of the commerce of the Mississippi valley, we believe that the general government should perfect a system of national quarantine which shall be under the control and direction of competent medical men whose duties and compensation shall be such as to prevent even the suspicion of fraud or favoritism; and which should be alike in its regulations and operations for all parts of the country, from Maine to Texas.

If action should be taken neither by the State nor by the general government, and the belief become fixed that quarantine (as it now exists) is incapable of excluding foreign pes-

<sup>(1)</sup> Public Health Reports and Papers, 1873, p. 416.(2) Disinfection in Yellow Fever, p. 7.

tilence from the port of New Orleans, then upon the first note of alarm, we may expect the repetition of the local quarantines of the past summer; the city will be cut off from intercourse with the surrounding country, and will resemble more nearly a plague stricken ship anchored at quarantine. Under such circumstances, New Orleans should make every effort to build up the trade which legitimately belongs to her, with South America, Mexico and the West Indies. Commerce should be conducted by acclimated persons, and all necessary sanitary regulations for the prevention of infectious or contagious diseases should be instituted upon ships trading with this port. All unnecessary taxes on commerce should be removed, and the city made as far as possible a free port open to the commerce of the world. Of course, all persous who live permanently in New Orleans, should expect to become acclimated, and by their acclimation they would present a barrier to the spread of yellow fever.

Quarantine may be viewed both as a national and international question, and its perfection will depend upon the careful study of the peculiar climatic, geological and topographical relations and indigenous diseases of each country. Thus England, by her insular situation, by the peculiarities of her climate and soil, and more especially by her energetic hygienic measures, is exempt from many dangers which threaten certain portions of the United States, and can with immunity maintain the free pratique of her ports. Dr. S. Oakley Vanderpoel,\* the accomplished and efficient Health Officer of the port of New York, has well said that the question of quarantines is one of the most complex of hygiene and medicine. If you bear in mind the obscurity which still hangs over the conditions of the development of epidemics; if you recall that, upon the globe, there is not a continent; that on such a continent, there is not a country which does not possess different conditions of predisposition, or immunity, with reference to these scourges; if further, it is remembered that every quarantine system, while it confers advantages upon those it protects, involves grave prejudices for those it contravenes, you will understand how difficult it is to express, in determinate

<sup>\*</sup>Public Health Reports and Papers, 1873, p. 405.

administrative formulas, regulations applicable to every place To be scientific and practical they should necessarily arrive at conclusions variable according to the locality or part to which the regulations are to be applied; variable also according to the nature and the diseases they purpose to contravene. These regulations will then, by their diversity, recall how varied are the dangers they should prevent, and also how different is the morbid receptivity of the different populations which they are to protect. It is not difficult, then, to comprehend how essential it is that the great question of sanitary measures should become more and more the privilege of competent men—of men who understand the mode of the propagation of epidemics, the local and geographical conditions of their development, and the special prophylactic measures applicable to each.

It is possible that a national quarantine law might be so framed as to avoid the charge of centralization on the one hand, and of political imbecility and fanaticism on the other; and it is also possible that in its operation it might preserve the local organizations of cities and villages, and at the same time combine the double law of international and municipal prevention of disease. The national quarantine should first obstruct by restrictive measures, the propagation, from foreign sources, of morbid germs; and the local sanitary boards should render, as far as possible, each locality refractory to their developement.

In a properly devised system of quarantine and hygiene, the general quarantine, so far from opposing the operations of local sanitary boards, should act in entire harmony with them for the promotion of the highest degree of health of the entire people.

Whatever may be the present disposition of the Congress of the United States as altered and consolidated by the civil war between the States, it is well known that in past times the question of the feasibility of establishing a uniform system of quarantine laws was discussed by such able lawyers as Webster, Emmett, Wirt, and Chief Justice Marshall. By an Act of Congress, passed February 25th, 1779, it is provided in the third section, that "there shall be purchased or erected, under the orders of the President of the United States, suitable

warehouses, with wharves and inclosures, where goods and merchandise may be unladen and deposited from any vessel which shall be subject to a quarantine, or other restraints pursuant to the health laws of any State as aforesaid, at such convenient place or places therein, as the safety of the public revenue and the observance of such health laws may require." It is evident that this provision has reference to the safety of the revenue rather than to the enforcement of a quarantine law: and from the whole tenor of this law we gather that in 1779, the subject of quarantine was held to be a State, and not a United States, matter. Thus, the first section provides that the quarantine laws of the States shall be observed by the Federal officers; that their officers shall aid in their execution; and that the Secretary of the Treasury is authorized to extend the time for making entries, etc., when a conformity to such health laws shall require it.

Mr. Webster, in the case of Gibbons vs. Ogden,\* held that quarntine laws were in their general character rather regulations of police than of commerce, in the constitutional understanding of the term.

Quarantine laws, for example, may be considered as affecting commerce, yet they are in their nature health laws. In England we speak of the power of regulating commerce, as in Parliament, or in the King, as arbiter of commerce, yet the city of London enacts health laws. Would any one infer, from this circumstance, that the city of London had concurrent power with Parliament or the Crown to regulate commerce? or that it might grant a monopoly to navigate the Thames? While a health law is reasonable, it is a health law; but if under color of it, enactments should be made for other purposes, such enactments might be void. Mr. Emmett, although taking a different view of the character of quarantine laws, yet agreed with Mr. Webster, that they were not within the competency of Congress; that whilst they were laws of police they were also laws of commerce; for such is the nature of that commerce which we are told must be regulated by Congress, that it en ters into and mixes itself with all the concerns of life.

<sup>\*</sup> Wharton's Reports vol. 9.

furnishes an argument showing that the States should have concurrent power over it.

The supposed ratification by Congress of the quarantine laws did not take place until 1796; whilst many of these laws were in active operation in the States several years before. For instance, New Hampshire passed her quarantine laws first February 3d, 1789, and again September 25th, 1792; Connecticut in May, 1795; the laws of Maryland show the temporary continuation of these laws in that State from 1784 to 1785, from 1785 to 1792; from 1792 to 1799, and so on down to 1810. The State of Virginia passed her first quarantine law in 1792, and Georgia in 1792; Delaware 1797. Undoubtedly, these laws derive their efficacy from the sovereign authority of the States; and they expressly restrain, and indeed, prohibit the entry of any infected vessels into parts of the waters and ports of the States. Attorney General Wirt viewed the quarantine laws in the same light with Mr. Webster, as police, and not commercial laws.

Chief Justice Marshall, in delivering the opinion of the court, held that the inspection laws and quarantine laws "form a part of that immense mass of legislation which embraces everything within the territory of a State, not surrendered to the general government; all of which can be most advantageously exercised by the States themselves. Inspection laws, quarantine laws, health laws of every description, as well as laws for regulating the internal commerce of a State, and those which respect turnpike roads, ferries, etc., are component parts of this mass. No direct power over these subjects is granted to Congress; and, consequently, they remain subject to State legislation."

It is scarcely to be credited that States controlling great commercial centres, such as Boston, New York and Baltimore, will surrender these rights tamely to the dictation of one or more men appointed by the President, and stationed in Washington. If the quarantine laws, the so-called National Quarantine, shall be framed alone for the Southern States, they may be perverted by designing men into a gigantic system of commercial oppression. Vague generalizations and shallow assertions as to the powers and necessities of the so-called

AMERICAN NATION, will surely not lead to such hasty and unwise legislation as will override the last vestige of State rights. It is but just to believe that the wise men of Congress will exercise the necessary caution, and will frame such laws as will not only protect in the best manner the health and welfare of the people, but also preserve all that is valuable in State and municipal regulations.

SANITARY CONDITION OF NEW ORLEANS DURING THE EPIDEMIC OF 1878.

It is impossible for men to alter climatic conditions, except by long periods of time devoted to systems of agriculture and drainage. We cannot look for any great change in this respect in this generation, especially with the depressed finances and overwhelming taxes of New Orleans. Under the depressing and disastrous circumstances which cover the State of Louisiana like a mantle of night, and which are the legitimate results of civil war, confiscation, disfranchisement, and so-called reconstruction, we cannot expect immediately any great changes. such as the complete paving of the streets of the capital city, and thorough drainage. It is well known that New Orleans has to contend with certain disadvantages of location and construction. Her citizens, in common with those of large sections of Louisiana, have had to reclaim the sites of their homes from the Father of Waters; they have been engaged during the past one hundred and sixty years in an unending conflict with flood, tempest, pestilence, and political oppression and misrule. It is not my purpose to unfold to you the infamous manner in which, in violation of the sanitary ordinances, and in defiance of the order and remonstrance of the Board of Health, the municipal authorities, charged with the cleaning of the streets, actually carted daily into the heart of the city the accumulated filth and garbage, to raise streets and fill up lots. Neither shall I attempt to describe the condition of the gutters, main drains and canals, blocked up with offal, and presenting a green, seething, putrefying mass of filth, belching forth noxious vapors.

The picture has been too often drawn by able artists to excite any longer interest or alarm. You need not be told that the city of New Orleans is situated in a plain, which lies below the high water mark of the Mississippi river; that the soil upon which it is formed is a tenacious clay, saturated with water contaminated with the seepage from privies or foul drains; and that many of the houses, especially in the populous portions of the city, are badly constructed, badly ventilated, and still more badly drained; and that large numbers of the inhabitants sleep on the ground floors.

What remedies can be applied to this condition?

1st. Thorough drainage. The chief sanitary problem of New Orleans, is that connected with drainage. Without doubt moisture (a high dew point of the atmosphere) forms one of the most favorable conditions for the rapid and progressive spread of yellow fever; and the same agent, in conjunction with confined, damp, brick houses, favors the origin of phthisis pulmonalis.

2d. The proper elevation and ventilation of houses, and the proper drainage of their yards. An ordinance should be enacted prescribing a proper elevation of all houses to be erected in future, and proper drainage of all yards and lots.

3d. The proper grading and enclosure of the gutters and canals. Continuous efforts should be made to thoroughly drain the streets and private premises; the sides of the gutters and canals, and their bottoms, should be walled in by impervious and indestructible materials, so as to prevent seepage into the surrounding earth.

It has been proposed to flush out the gutters by continuous streams of Mississippi river water; but this would be of doubtful utility in the present condition of the gutters; with their mud sides and bottoms, furnishing a surface for the absorption of decaying matter and the exhalation of foul gases, and the generation of clouds of insects. The currents of water, to produce sanitary benefits, should flow regularly and continuously, over smooth, well-graded and impervious surfaces, and the draining machines should be sufficiently powerful and numerous to remove the surplus water accumulating in the rear or swamp side of the city. Open drains will accomplish the result of drainage more effectually than closed gutters, or canals or sewers. The fall from the river front to the Lake, in which

1879

direction the drainage necessarily flows, is too small to admit of any system of underground sewage in New Orleans. The grand objection to such a system, is the want of sufficient fall to force obstructions and prevent, especially after hard rains, the filling and stoppage and regurgitation of the contents of the sewers.

4th. The abolition of the system of making streets with the foul deposits of the gutters, garbage, and refuse organic matter from the yards.

5th. The systematic cleansing and disinfecting of privies.

6th. The systematic disinfection of the gutters and canals with such agents as quick-lime, copperas and carbolic acid.

7. The progressive elevation and paving of all streets. The square block pavement, properly laid, is without doubt the best form of pavement for the peculiar soil of New Orleans, but much may be accomplished by the systematic distribution of gravel, shells and ballast of vessels.

8th. The subordination of the street cleaning and scavenger departments to the orders and direction of the Board of Health.

With proper sanitary regulations, and the proper drainage of the city by skilled engineers, it may be possible to render the soil and climate of New Orleans comparatively dry, and salubrious.

INVESTIGATION DESIGNED TO DETERMINE THE CHEMICAL AND MICROSCOPICAL CONSTITUTION OF THE AIR DURING THE PREVALENCE OF THE YELLOW FEVER.

I shall close this lecture with a very brief outline of the results of a portion of my investigations, which were commenced in 1856 and were continued up to the early days of last October, when they were temporarily suspended by sudden and violent illness.

At the present moment I will allude chiefly to my observations upon the air of rooms in which yellow fever patients were placed.

Seizing upon the fact that cold arrests yellow fever, I sought to condense and render palpable to the eye and touch the poison, by passing large volumes of the yellow fever atmosphere

through ice and ice cold water, by means of carefully constructed bellows. In this manner I threw from 100,000 to 600,000 cubic centimetres of the vellow fever air through ice and ice cold water. The products of the condensation thus obtained were examned both chemically and microscopically. In this manner I have subjected the air of localities and rooms which appeared to be infected with the yellow fever poison to microscopical and chemical examination, and I have discovered numbers of minute organic living particles, which might properly, be termed sporules, having a diameter ranging from one-tenthousandth to one-twenty-thousandth of an inch; and also numerous llving animalculæ, together with minute particles of fatty bodies, scales from the human body and fibres from the bedding and clothing. The sporules resembled most nearly the micrococci and criptococci of Hallier. I have observed similar particles in the blood of yellow fever patients, and have found bacteria in the air and in the blood. The blood was examined immediately after extraction, under the microscope. I have endeavored to ascertain whether these particles, or the matters obtained from the air where yellow fever was prevailing, would have any effect upon living animals. Numerous experiments were made. These substances injected, subcutaneously, into animals produced irritant effects, but not death, so far as the experiments have been carried.

The blood of yellow fever patients under the microscope differs essentially from that of malarial fever patients; in the former disease the blood corpuscles rapidly assume a crenated form, with minute transudations upon the surfaces. In a severe case of yellow fever the blood often contains small particles possessing a vibratory motion. I have also observed bacteria and a singular delicate fungus in the blood of yellow fever patients. Blood has been allowed to stand and the development of the fungus has been watched. If fresh blood from yellow fever patients be injected into an animal it will produce fever, but no animal has yet died from it, as before stated. If, however, the blood be allowed to stand for a short time—say several hours—it will undergo chemica. Large or putrefaction and then will prove rapidly fatal to animals, even when injected in minute quantities under the skin.

Fresh black vomit introduced subcutaneously, acts as a local irritant, and also produces fever. If black vomit be taken from the stomach of a dead man, or if that from a living person be allowed to undergo putrefactive change, it destroys in a few hours the life of an animal to which it may be administered under the skin.

The black vomit, in many cases, a short time after ejection becomes filled with low forms of vegetable and animal life, such as the spores and thalli of torulae, the organized bodies in yeast, and bacteria. I have noticed as characteristic of the secretions and excretions in yellow fever an exceedingly delicate fungus which is evidently a species of the plant which produces fermentation in beer and yeast.

AGENCY OF THESE ORGANISMS AND THEORIES OF YELLOW FEVER.

We may take two views as to the agency of these organisms in the spread of yellow fever, and also two views as to the nature of the disease:

- 1. As to the nature of the disease. Yellow fever may be regarded as a disease depending solely upon changes of heat, moisture and other climatic conditions, acting upon the human constitution in a certain state; or to the absence of ozone or electricity from the atmosphere. But, if this theory were true, the disease would appear in all quarters of the city simultaneously, and not ramify, as it does, from a focus, and along lines of travel.
- 2. A modification of this theory might be this: that heat and moisture, and surrounding climatic conditions, affecting the constitution, when in a certain state, caused the development of a certain poison ir the system thus acted upon and in this peculiar state, which is capable after being developed of propagating itself, such propagation being due to two causes: 1. The direct emission of some poison from the person infected, either from the breath or the secretions. 2. Such poison may be conveyed by minute forms of plant or animal life, the plant or animal finding a nidus for its growth in secretions, as black vomit and the dejecta from the intestines, and when excreted, conveying the poison by being wafted about by currents of air.

3. Yellow fever may be due to special germs indigenous to a limited portion of the world. It may be supposed that this germ exists independent of the human organism and may be transported in ships, etc.; that it thrives in its native locality, and whilst it propagates outside of that locality, it will not exist for any great length of time, frost killing it. With this theory may be coupled the hypothesis that these germs have potency only when in contact with diseased matter.

The fact that the putrid blood and black vomit destroy animal life would explain why so many deaths have been traced to the exposure of putrid corpses. It is possible that this putrefection is produced by the presence of the lower forms of organism, without supposing that there was any contagious matter issuing out of the body itself.

How would you explain the fact that when a family is stricken by yellow fever some members have light and others severe attacks?

And how do you account for the fact that, as a general rule, the disease is more malignant among persons recently arrived from other latitudes than among natives?

In my judgment, this phenomenon is not due to any difference in the amount of the poison absorbed by different individuals, but is entirely due to the state of the system of the person at the time of the reception of the poison. To illustrate: during the recent civil war, in the early days of the conflict, gunshot wounds healed readily, and the destructive form of disease called hospital gangrene, was almost unknown. This disease commits the most terrible ravages on the body, and the slightest wound might result in the exposure of important arteries, muscles, etc. As the war progressed the disease became more and more common.

Thus, after the long campaigns in Virginia, Tennessee, Mississippi and Georgia, where the men were exposed in the trenches to all kinds of weather, by day and by night, and to all manner of hardships, wounds healed with great difficulty, and hospital gangrene frequently supervened, causing great loss of life. The difference in this case was that the constitutions of the men had been altered by unfavorable conditions of existence.

In yellow fever it is a remarkable fact that as a general rule, the natives of cold climates suffer most from the poison. This can be explained on the hypothesis that the poison partakes of the nature of a ferment, and a healthy individval has a large amount of matter in his blood capable of undergoing chemical change. Hence the high temperature and rapid structural alterations produced by the poison in such cases.

Persons residing in a tropical or semi-tropical climate for many years, and natives, have the fever in a milder form as a general rule. It would appear that the effect of the climate was to alter the blood so as to prevent the violent changes which take place in the blood of totally unacclimated persons.

This whole subject is one of the most complex character, involving considerations of the relations of vital forces, to other forms of force; the effects of heat and moisture and of malaria in reducing the standard of health.

# Opium as a Tonic and Alterative; with Remarks upon the Hypodermic use of the Sulphate of Morphia, and its use in the debility and amorosis consequent upon Onanism.

Paper read by B. A. POPE, M. D., before the Medical and Surgical Society of New Orleans, January, 1879.

In using the word opium I shall consider it as synonymous with sulphate of morphia. In all my experiments with opium, upon which this paper is based, this was the form used; and the method of its administration was by hypodermic injection.

Of course, under some circumstances, its administration by the mouth, endermically, or in suppositories, would possibly be more appropriate; but as it is not my purpose to treat of the use of opium in general, I shall confine myself to the consideration of the results of that method best adapted to develop its special virtues, which are under discussion.

This subject cannot be better introduced to the attention of this Society than by quoting the words of the distinguished therapeutist, Gubler (Commentaire du Codex Médicamentarius.):

"Opium," he says, "is certainly the remedy the most used



and most important of the whole materia medica. It has been said, with reason, that without it the art (practice) of medicine would be impossible."

The words tonic and alterative are used because they do not involve a definite physiological theory of the action of the drug, but only express the results of its use under certain circumstances; which in the present condition of our knowledge is often the most rational basis for a nomenclature.\*

A tonic is usually defined as one of a class of medicines which gradually and permanently increase the tonicity of the system, strengthening and invigorating it when in a debilitated condition; they increase the appetite, assist digestion, and thus, by increasing nutrition, give firmness to the muscular and circulating systems.

Alteratives are such medicines as induce a favorable and gradual change in the system without any manifest operation or evacution.

It is true that such terms would be of little use were our physiological knowledge perfect; but imperfect physiological theories can but cloud the mind of the clinical observer, especially that of the beginner.

There is great prejudice against the systematic use of opium, both on the part of physicians and the public on account of the danger of contracting the "opium habit." In addition to this, the almost uniformly unpleasant effects of opium when first used, has greatly hindered its more extended study. Nothwithstanding these objections, and its frequent irrational use, the literature of medicine abounds with testimony of its great virtues in many and often seemingly contradictory directions. This, however, appears less remarkable when we consider the manifold relations of the nervous system to all the organs of the body.

Gubler, in his work above mentioned (p. 229), says that

<sup>\*</sup>Since this paper was read before the Society I have found tha Fothergill (Handbook of Treatment) and H. C. Wood (Therapentics Materia Medica, and Toxicology) both declare that the present physiological theories are inadequeste to account for the well established clinical facts concerning opium. If these high authorities do not express the same opinions as I do they, at least, admit that some additional principle or principles are wanting to explain the accumulated facts, and thus, to a certain extent, place themselves in a position favorable to my opinions.

"opium, when taken internally, in small doses of one to two centigrames, gives rise to a slight excitement of the circulation, animation of countenance, brilliancy of expression, a sensation of well being, alacrity of spirit, disposition to exercise and increased muscular force."

"In a stronger dose of 5 to 10 centigrams, the symptoms of the period of excitation, more pronounced than in the first case, and accompanied by frequency and fullness of pulse, are soon followed by depression of circulation, dryness of the throat, nausea, and sometimes vomiting, with loss of appetite, diminution of force, repugnance to movement, diminished impressibility of the senses, and confusion of ideas, and, finally, an invincible tendency to sleep accompanied by dreams happy or terrible."

"In an excessive or poisonous dose, opium determines at once the symptoms of the period of collapse."

"It is, however, not rare to see the scene open by movement reminding the observer of the effects of tetanising poisons,"

"Opium paralyses sensibility and diminishes the tonicity of the capillary system; this seems to be its primitive and direct action"

"In our opinion, the hypnotic effects of opium are caused by the congestion of the cerebral substance and of the meninges, to which, we think, should be added, the stupefaction of the nervous centres, analogous to that of the nerves of sensation and movement,"

"Opium (p. 232) acts both as a stimulant and a sedative, and I could add, as the result of the same dose and at the same stage of its action."

Bintz (Elements of Therapeutics) classes opium as one of the "Nervina Depresoria, whose special purpose is to produce a sedative effect." In speaking of the action of opium, he says: "Internally, when given in small doses, it causes transient excitement, but in large ones it quickly stupefies and paralyses, and its effects are slow in passing off. Its most marked property is that of paralysing the organs of sensation and perception.

"The functions of the spinal cord and its appendages are impaired by moderate doses. The striped muscular tissue is but little affected. In small and medium doses morphia stimulates the whole vaso-motor nervous system (Gscheidlin), the special result being contraction of the arteries and increase of the blood pressure. The frequency of the pulse is also usually increased. Morphia diminishes sensibility and movement in the human intestinal canal."

"Natural sleep is to be regarded as the result of fatigue of certain brain cells induced by the work they perform in receiving and reproducing impressions. In them, just as in any other animal cells, certain acid and chemically paralysing products of tissue change will be chiefly formed, and will partially or completely arrest the work done by these cells, until the blood and lymphatic vessels of the pia mater have removed them and restored the cells to their normal condition. Morphia has a similar property of temporarily paralysing the substance of the cell, and so inducing sleep. The contraction of the small vessels of the brain, and the anamia thereby induced by the action of morphia upon the vaso-motor centre, are also adduced as a cause of sleep; but we must remember that certain narcotics, such as alcohol and chloral hydrate, produce a deep sleep, in which the blood vessels of the brain are not contracted, but more or less congested. Anamia cannot therefore be a main condition of sleep, which is probably due to nactivity of the sensory organs induced by various other influences.

Fothergill, in his Handbook of Treatment, says:

"Even opium is not free from excitant properties, which counterbalance and even preponderate over its sedative properties with some individuals. Much depends, too, upon the manner in which it is given; if administered in frequently repeated but small doses, its excitant properties are brought out; if given in full doses, its sedative action is most pronounced. By habit, and long indulgence in it, opium may be converted into a nearly pure excitant,"

"This combination of properties in a drug of so pronounced a character, demonstrates how difficult it is to form any arrangement or classification of neurotic agents which shall not, at some point or other, clash with acknowledged facts. In the present state of our knowledge, a strictly accurate classification is unattainable; still it is possible to adopt an arrangement which will so group neurotic agents as to make their action somewhat clearer than before, and, to a great extent, to elucidate their use in actual practice."

"At first opium increases the pulse rate and the arterial tension, but afterwards both are lessened below the normal point (Nothnagel, Gscheidlen). The first action of opium, then, is the production of excitement during which there is also increased vascularity of the encephalic arterioles (Max Schuler). Then follows contraction of the cerebral vessels, a fall in the blocd pressure generally, and, with these, lessened activity in the nervous system takes the place of excitement. This lethargy following activity was at one time attributed to exhaustion of the stimulated nerve centres (A. Todd Thompson). We should scarcely say so now; but we know that this diminished functional activity is accompanied by distinct reduction in the cerebral vascularity—partly the consequence of the fall in the blood pressure, and the contraction of the encephalic arterioles; partly the outcome of the effect upon the cerebral cells, so that they do not attract the blood so actively."

Rabuteau (Élémentes de Thérapeutique) says that morphia dilates the pupil and both Rabuteau and Trousseau assert the stimulant action of opium.

H. C. Wood (Therapeuties, Materia Medica and Toxicology) does not hesitate to say that the present theories do not account for all of the clinical facts as regards opium, and it is exactly to these facts that I refer when claiming for it tonic and alterative properties. We have not yet reached a perfect theory of the action of a single drug, and are consequently forced to seek for well observed facts at the bed side to guide us in practice.

It has sometimes appeared to me that the action of opium might not be confined entirely to the cells, etc., of the nervous system. There is no a priori reason to be urged against it, and the assertion of Gubler (p. 228) that it "stupefies the plants endowed with movement," would seem to justify the idea of its possibility. Certainly, unless we admit that these plants have some form of nervous structure, we must admit that it may affect other tissues than the nervous. Except for the results of experiment, we would not be able to judge that it would act more on the nervous than on the other tissues, and there is no direct proof that it may not have other physiological relations than those it bears to the nervous system.

Niemeyer denies that experiments made with medicines on the lower animals or healthy human subjects has been, or promises to be, of direct service to our means of treating disease.

I cannot fully assent to this proposition; but, up to this time, the direct benefit from such experimentation with opium can be, without hesitation, declared to be nothing. The great therapeutic powers of opium have only been discovered by direct experiment upon the diseased and suffering human subject.

Would physiology ever have taught us that it might be of benefit in the collapse of cholera, or the lowest and most desperate cases of typhus? Would physiological research have ever taught us, what I have frequently found, that, in some conditions of the body, it is the most rapid and powerful restorer of the blood, and of the nerve force, known to medicine; surpassing in the completeness of its action quininine or iron, or both of

them combined; and this where there was no pain or special irritation present; which, according to Bintz, are the only indication for its use? Were our physiological knowledge perfect, it might possibly do so, but not in its present stage of development. I am not sure, in it is seems to me that physiology has received more benefit from clinical observation than practical medicine has from physiology. We should not fall into the error of supposing that everything which in practical medicine accords with physiological theory is a debt owed to physiological research, it mostly being that this accord is the result of the readjustments of physiology to practical medicine and its suggestive teachings.

Bintz, in the above quoted work, says of its use: "Morphia is one of the most trustworthy remedies for diminishing irritation or peripheral excitement of the nerve centres, as well as of individual nerves, in inflammatory, septic, neuralgic, and convulsive states; hence it is given in pneumonia, bronchitis, acute intestinal catarrh, cystitis, and typhus fevers, delirium tremens, lead poisoning, colic, the eclampsy of pregnant and parturient women; in salivation and diabetis, in hæmorrhages, in all kinds of neuralgia, and, in a word, in the most various forms of general and local disturbance which exhibit the character of psychical, sensory, or secretory irritation."

"From the very beginning of this century opium has been recommended as an antidote in belladonna poisoning, and recently morphia has been used subcutaneously for this purpose."

It is obvious that the only mode of action for morphia (opium), admitted by Bintz, is the power of this medicine to allay irritation. To my mind there is no more striking illustration of the fatal power of imperfect physiological theories then this position of a so superior therapeutist as Bintz. Suppose that any gentleman present were called to a case of cholera in a state of collapse, and found one in charge of the patient who would decline to give him a good dose of sulph morphia hypodermically, on the ground that it was a medicine that only had power to allay irritation; and was not therefore indicated in a state of collapse, so closely bordering on death? He might argue that it was a nerve sedative, and that the patient was already too much under the influence of the great nerve sedative—death.

Now, suppose this objector be dismissed, and the injection

given, followed by revival from this state. Does any one present believe that this would have been due to the sedative effect of opium? Again, take a case of low fever in its worst stage, and observe the truly wonderful effects of opium, and ask yourselves whether this theory will account for all the results or for only a part. I shall here introduce some views of Ringer given in his Hand Book of Therepeutics.

Speaking of the furious delirium of certain fevers, and their former treatment by Graves with a combination of ludanum and tartar emetic, he says:

"Now-a-days, however, morphia hypodermically administered, is found to act more certainly and speedily, without

deranging the stomach and intestines.

Laudanum may be given alone with signal benefit in muttering delirium, with muscular tremors, dry skin, and prostration. A grain of morphia or a drachm of laudanum is mixed with four ounces of water, and a teaspoonful is given every five or ten minutes, till three or four doses have been administered. If by that time the patient is not asleep, the medicine should be intermitted for half an hour; then if sleep does not come on, a few more doses should be given in the same way. This method often insured calm, refreshing, invigorating sleep, lasting for several hours, out of which the patient wakes free from wandering, refreshed, the tongue moister, the appetite and digestion improved, and the skin comfortably moist. Sometimes, however, it answers better to give a single moderate dose.

'Any one who has watched the action of opium on a patient in extreme weakness, with sleeplessness, twitching and tremor of the muscles, quivering dry brown tongue, and parched skin, must have been struck by the fact that the administration of laudanum, by producing refreshing sleep, helps a patient over this critical stage with far less consumption of alcoholic stimu-

lant than would otherwise have been required."

Who can read the above graphic and true pictures without seeing that something more than sleep and diminution of irritation are necessary to account for the patient's awaking with "appetite and digestion improved" in desperate stages of typhus fever. Were this produced by quinine there would be no question as to its tonic action.

Gubler, while exalting opium and recommending its use in a great variety of cases, is opposed to its use in all sthenic forms of disease, or where congestion may be suspected, especially of the brain, spinal cord, or of their membranes, Whether as a stimulant, sedative, anodyne, or hypnotic, he only uses opium

in asthenic and anaemic cases, believing that its almost essential effect is to congest and do harm in the opposite states. It is impossible to follow this author in all the details of his opinions, and I will only say that his theory of the action of opium causes him, in my opinion, to restrict its use too much. Local blood-letting and its combination with other treatment, enables us to use it freely and with great benefit, in many cases in which his theory would prohibit its use.

It may be well here to give somewhat in detail some of the diseased conditions in which opium has been found beneficial by most authors who have written upon the subject. I do not propose to give a classification, and shall only comment upon them in so far as it may be necessary to enforce the theory of the stimulant, tonic and alterative action of opium.

It has been used with undoubted benefit in obstinate and severe neuralgia, in certain cases of insanity, in the delirium of the wounded, in certain cases of nervous deafness (Toynbee, Diseases of the ear), in amaurosis, by the writer, in hysteria of very anæmic women, in intermittent fever, in the advanced stages of small-pox, in the lowest stages of typhus fever (by Graves and Stokes), in cholera, in the exhaustion of heart disease, in senile gangrene, in extensive suppuration, in great loss of blood, in desperate and almost hopeless chronic diseases of the intestines, in chronic irritable ulcers, in certain forms of (apyretic) rheumatism, in acute vomiting, in diabetes melitus and insipidus, in so-called colds, in amenorrhæa, in uterine and pulmonary hemorrhæge, in spasm of both systems of muscles, as an antiphlogistic, in several forms of dyspepsia, and in a variety of other conditions.

The influence of opium in subduing pain and irritation in their various forms, and in procuring sleep, attracts most strongly the attention of the observer, and by some are considered its most important, if not its only (Bintz) virtues. These are doubtless properties of great importance, but by no means equal its value as an antiphlogistic, and as a sustainer and builder-up of the system, in the most desperate conditions.

Certainly the cessation of pain and the procurement of sleep are factors of great importance, but it is impossible to conceive that these results should be obtained without other profound influence being exerted on the vital processes going on in the tissues which are the seat of the inflammation or other diseased processes.

These are not isolated facts, however little we may be able to understand the subtle changes which attend and follow them. Nor do we obtain the good results in the same degree when sleep and cessation of pain are obtained by other means in the same conditions.

There is also no doubt that in the critical stages of exhausting diseases its power over organic changes in the diseased tissues, and in the whole system, so acting as to conserve and increase its forces, may decide a favorable result. Taken properly under such circumstances it may be considered in one sense as both food and medicine.\*

Its antiphlogistic powers, its remarkable influence in low stages of typhus fever, its great and exceptional influence in diabetes, and, as I shall show by example later, its power in restoring the health of the blood, and of the nervous system, certainly justify the claim advanced for opium as being a tonic and alterative, as well as a stimulant and sedative.†

It is almost certain that the idea that opium has tonic effects would never have entered my mind so clearly had it not been for its hypodermic use. This method of introducing medicine into the blood is one of the greatest improvements in modern therapeutics. I have demonstrated to my own satisfaction that we cannot always obtain the good effects of opium in the same degree or in the same space of time when administered by the mouth. This rules applies, probably even more strongly, to some other drugs than to opium. This fact calls for a readjustment in the therapeutic teachings as regards such drugs as can be used hypodermically. It actually seems as though there were in the case of some remedies a difference in kind, as well as in degree, in the effects produced by this method, as compared with the method of administration by the mouth.

<sup>\*</sup> Wood (H. C.) when speaking of the power of opium as an antiphlogistic, says: "By allaying irritation and pain, opium affords relief in most cases of inflammation, but in certain varieties of the affection it seems to do more than this, exerting in some way at present difficult to explain, a life saving influence-

<sup>†</sup> Dr. H. C. Wood, of Philadelpnia, says again:

<sup>&</sup>quot;Opium appears in low fevers, and in various protracted adynamic illnessees, to afford actual support to the system, in some way not as yet made out. This is especially the case when, troin any reason, sa libitation to keep up life cannot be taken or retained."

The explanation of these facts is not yet to be found, but they are none the less true, even though physiology cannot as yet solve the problem. I have experimented upon an appropriate case, first by the mouth till the full physiological effects have been reached, without having attained a curative (tonic or alterative) effect; when upon giving the same, or a smaller dose hypodermically, the effect sought for followed rapidly. It may be that the suddenness of its action (being, as it were, in one blow), and the elimination, to a great degree, of the disturbing effects upon the organs of digestion and the nerve centres will account for the difference in the effects of the two methods of administration. Certainly it would be useless to hope for a tonic effect should the whole system be disturbed and upset. One thing is certain, namely: that the most important of the medicines adapted to hypodermic use are much better borne when thus used. The doses required are smaller. and do not require such frequent repetition, nor do they require to be used for so long a time. All authors agree that the appetite is not so much diminished, that the bowels do not become so much constipated, and that the effect is more rapid and permanent when opium is used hypodermically. This is as far as I find that authors writing upon the hypodermic method go in their expressions of preference for this method.

If what has been said above as to the comparative benefits of the hypodermic method be true, it is, so far as I know, the assertion of a new principle in therapeutics—applicable to strychnia, opium, and possibly mercury and some other drugs.

I will conclude my paper by giving in a few words the history of a case illustrative of the tonic and alterative effects of the sulphate of morphia in small doses.

The patient, a youth of about 14 years old, was led to my office by his father. His sight was so far lost that he could not walk unguided, and he presented a striking picture of anæmia and mental weakness. It was with great difficulty I discovered that he had contracted the habit of masturbation, and this was only accomplished by his own confession. The patient promised to discontinue the habit, and in about a week after his father brought him to me for treatment, in the same condition as described above.

Ophthalmoscopic examination showed that the loss of sight was of cerebral origin, the retinæ and optic papillæ being healthy. Treatment was commenced by the hypodermic use of the nitrate of strychnia, in doses of 1-60 of a grain, increased to about 1-40 of a grain after about five days. This treatment was continued for ten days, with a slight improvement in the sight, which, however, began to retrograde on about the sixth day. The general condition was but little improved, and I determined to give up this method of treatment as a failure.

I now decided to make trial of such nervous agents as might give most promise of benefit, commencing with opium, on account of the cause of the trouble, which seemed to approximate the case to some of those above enumerated as being benefited by its use.

This treatment was commenced by the injection daily of 1-16 of a grain of the sulphate of morphia into the arm. After ten days the dose was increased to 1-12 of a grain, and after three weeks the dose was gradually diminished to 1-30 grain a day. At the end of a month the patient was dismissed from treatment the picture of health, having fattened very much, and lost every trace of anaemia and mental imbecility. There was a marked improvement in the sight after the first dose of medicine, and the patient showed some improvement in the expression of his face, and looked less depressed and weak, At the end of a week he could read ordinary print, his appearance and mental faculties had greatly improved, and his appetite had also improved in an astonishing manner. At the end of three weeks his sight was perfect, though he could only see the fingers at six inches from the eyes when first seen. No other medicine was used, and no change was made in the diet or otherwise, except as to the habit of masturbation. The most striking feature was the suddenness of the improvement, the first dose giving a marked change. I have not gone into the minute details, nor been particularly technical, because this case will be utilized specially elsewhere,

The results in this case were to me amongst the strongest evidences of the power of medicine that ever came under my observation, more striking in my opinion than the effects of quinine in intermittent fever; for here we have the renovation of the blood, the renewal of moral and intellectual power, and the restoration of the well nigh abolished sight.

This case was observed about two and a half years since, and led to a long series of experiments continued to this moment, with the result of increasing my confidence in the power of opium for good in appropriate cases.

I cannot, however, too strongly warn against its careless or inappropriate use, for I have seen great disturbance lasting for weeks caused by a single moderate but inappropriate dose.

I have known a patient so sensitive to the effects of opium, that a hypodermic injection of 1-30 of a grain of the sulphate of morphia once a day produced nausea and occasional vomiting for several days. In this case, however, there were no precautions used, the patient being allowed to walk about as though no medicine had been taken. This nausea is, however, often beneficial in acute inflammations.

It seems to me that the following propositions are worthy of cosideration:

1st. Opium acts as a sedative on all healthy persons but as a tonic it cannot act, because only the sick need a tonic, and but a limited number of these require the tonic effects of opium. Just here it is that the doubt enters as to the possibility of physiological theories ever acting any other than a suggestive role in the practice of medicine.

Clinical observation has taught me that opium may be considered as a tonic; and, when we consider its curative powers in most desperate conditions of disease of the most varied kind, it seems that it must possess truly alterative virtues.

The expressions sedative, allaying irritation, stimulating the vaso-motor nerve centres, etc., are quite as vague as the terms tonic and alterative, and need quite as much explanation as to the processes by which they are brought about. The truth is that not one admitted fact as regards opium has as yet received a thorough physiological explanation. Just as it is claimed that opium paralyses nerve cells, so I think that it acts on the same cell under certain conditions as a tonic and alterative when given in doses suited to the person and to the dis-

ease. I have the same proof, viz: observation of its effects in disease.

2d. The most marked benefits observed from the use of opium are in cases of the asthenic type, in the anæmic, and in the most desperate forms and stages of disease, as in typhus fever in its lowest form, in cholera, in great loss of blood, in such cases as the one above detailed occurring in my own practice, in severe inflammatory diseases, and in certain conditions of the blood in syphilis.

3d. We have in the sulphate of morphia, hypodermically used, a new remedy in a certain form of amblyopia and amaurosis. It is highly probable that the amaurosis which sometimes follows great loss of blood can be prevented by a proper use of opium continued for a sufficinely long period of time. I have now in my mind a case of hæmorrhage, thought to be fatal at the time, which made a complete recovery by its use, combined with iron. The only case of amblyopia in consequence of diabetes melitus which has occurred in my practice was readily cured by opium and diet.

4th. We may find in opium a new and important aid in the treatment of the victims of the habit of masturbation by means of which their moral and physical forces may be so increased that they may be enabled to enter the true physiological path. The condition of these cases preventing often the proper exercise of the sexual function, it would seem that any medicine would be a great boon which would render them the necessary moral and physical aid under the circumstances. This class of cases is more numerous that is generally known, even to physicians.

5th. The sulphate of morphia when hypodermically used (and this is probably more strongly true of strychnia), seems to have in a practical, if not in a physiological sense, new virtues.

6th. As a rule, the tonic and alterative doses of opium are comparatively small, but there is upon this point a great difference, some cases, as in great loss of blood, etc., etc., requiring large and often repeated doses. The dose varies from 1-60 to ½ of a grain for adults.

7th. As a rule the unpleasant effects of opium, if given in

suitable doses to patients in whose case it is truly indicated, are much less marked than in healthy persons, or those in whose diseases the drug is contraindicated. In the large majority of appropriate cases its effects are pleasant as well as beneficial, though the exact dose required is determined by constitutional peculiarities, as well as the nature of the disease, and the condition of the patient.

8th. It seems that by using opium hypodermically the physician has more power to prevent the "opium habit," though I find that Bintz holds the opposite opinion. Certainly the physician has it in his power to diminish the dose without the knowledge of the patient, and thus wean him from the habit. If opium be given in proper doses in cases where it is really indicated, it is much easier for the patient to discontinue tts use when it is no longer indicated than in cases where its use was unnecessary or contraindicated. Ordinarily when a very debilitated case has been restored to health by the use of opium it can be discontinued, even abruptly, without much disturbance to the nervous system, and in many cases without inconvenience, even where very large doses have been used. In most cases the fact of the use of opium need not be revealed, and when this is the case there is no trouble for the physician to discontinue the use of the drug.\*



#### Iodoform.

ITS USE IN SERPIGINOUS CHANCROID OF THE GROIN.

BY W. H. WATKINS, M. D.

One of the most intractable of all forms of ulceration is that disease, a sequlæ of chancroid of the penis, serpiginous ulceration located in the inguanal region. During a long hospital experience I have frequently met with this obstinate affection, and

<sup>\*</sup> I would here protest against the custom which is certainly adopted by some physicians in America, of teaching patients the use of the hypodermic syringe. This is only proper in exceptional cases, which suggest themselves readily to the mind of the physician.

often have seen the patient an uninterrupted sufferer for months. The disease was always the result of infection from chancroids located on the penis. The immediate result of a pubo, which, having suppurated, on being opened failed to heal, and progressively assumed first, the form of a simple chronic ulcer, afterwards taking up the characteristic phenomenon of serpiginous chancroid. The patients affected with this disease seldom, indeed, bore the evidence of depraved blood, or consequent ænemia. They were generally robust, except in those instances where the ulceration covered a large extent of surface and suppuration was profuse.

Of all tonics employed the only one seeming to exercise any benefit was the muriated tincture of iron, given in drachm doses three or four times daily; but in many cases this remedy signally failed to do more than improve the general aspect of the ulcer without healing it. Local applications, such as carbolic acid, nitric acid, liq. sodæ chlor., properly diluted or used pure, exercised only temporary relief, or occasionally cured the affection. It was not until the fall of 1877, that under the direction of the professor of surgery, Dr, T. G. Richardson, the disease seemed to be mastered, and since that time I have not failed in a single instance in completely curing the affection. The plan adopted was as follows:

The skin around the ulcer was thoroughly washed with castile soap and water, and afterwards with a ten per cent. solution of carbolic acid; care was also taken to cleanse the ulcerated surface of suppuration. The patient was then placed under the influence of chloroform, and stick caustic potash was thoroughly applied, first to the edges of the ulceration, afterwards to the entire extent of the diseased surface. The result was a black eschar which was detached from its location by carbolized flaxseed poultices. When the slough had become separated, a finely granulating, healthy looking ulcer remained. This was sprinkled twice a day with pure iocoform, and healing occurred with great rapidity. A piece of dry lint was placed over the iodoform, and at each renewal of the application the ulcer was carefully and gently washed with pure water.

I would also add, that previous to the introduction of iodoform to the local treatment; the thorough destruction of the ulcer with caustic potash had been tried, but the healing process was uncertain.

# Prolapsus of Uterus and Vagina During Labor.

By W. W. WALKER, M. D., Schulenburgh, Texas.

The following is, to me, at least, a novel and peculiar case of obstetrics: At 2 o'clock, A. M., June 21st, 1878, I was called to see Mrs. Frank Stavanaha, Bohemian, etat 26 years, in her second confinement; husband stated she had been in labor under care of a midwife for about 48 hours. Arrived at the house about 3 o'clock, A. M.; made an examination; found the child's head had passed out of the pelvis, but in its descent had carried with it the uterus and vagina, producing a complete prolapsus of the vagina and corresponding amount of uterus, say to the amount of about five inches; the ring formed by os uteri and attachment of vagina preventing the child's head from being born. At each recurrence of the pain the parts would protrude about an inch, when the pain would cease, then they would return to the same position. I annoited the parts well with lard, locked my forceps on the child's head, caused the midwife with both hands to press the ring formed by os uteri towards the woman below the forceps. I did the same with my left hand above, grasping the forceps with my right hand, drew the child's head through the obstruction, the body soon and easily following; delivered placenta without trouble, and with only a moderate amount of hemorrhage. Replaced the parts to their normal position; the woman made a good recovery; the child, a girl, weighing 8 pounds. I have seen several prolapsuses of this kind in the cow after calving, but this is my first experience in the human race, and the authorities at my command are silent on this subject.

# CURRENT MEDICAL LITERATURE.

ON THE DIAGNOSIS OF ANEURISM OF THE AORTA.

By Prof. C. REISZ.

Translated from "Hospitals Tidende," of Copenhagen, September 4th, 1878.

By O. R. LANNG, M. D.

[Continued from the February number.]

As the aneurism did not come any nearer to the wall of the chest during its growth, the above mentioned direct symptoms did not appear more distinct, and continued to be unchanged during the patient's long staying in the hospital (105 days); but they were, however, sufficient in connection with the before mentioned ones to make the existence of a tumor possible, a tumor pressing upon trachea and capable of pulsating strong enough to be felt on manubrium, where also a double sound was heard-ergo, aneurisma! The compression of trachea was manifested by the stridulous inspiration, and at the same time as the above mentioned direct symptoms were found, it was demonstrated (August 16th) that the breathing in the lower lobus of the left lung hardly is as strong as on the right side, while percussion is unchanged, clear. There was now evidence of compression of the left bronchus, and if the observer had any doubt yet, this soon had to vanish, the respiratory sound becoming extremely weak all over the left side compared with the right one, and later in the disease (mentioned in the journal November 17th) there appeared two absolutely characteristic symptoms, showing that the left chief bronchus was compressed:

"The patient had yesterday an attack of dyspnoæ; he occupied during this a sitting, forward-inclined position; on the posterior surface of the entirely denuded truncus was seen, on the left side, a very well marked drawing in of the lowest costæ and the upper part of reg. lumbalis sinistra at each inspiration; by auscultation only the noisy respiration from traches was heard."

As soon as the attack was over, the drawing in ceased. This symptom is to be explained only in this way, that during the attack there has existed a complete stenosis of the chief bronchus to the lower lobus of the left lung, at least, if not of the chief bronchus to the whole left lung, and that by the violent inspiratory movements an aspiration of the corresponding part of the wall of the chest is manifested like the inspiratory drawing in of cardia in stenosis of larynx (e. g. in croup); but what makes the aneurism on arcus characteristic is this, that the drawing in is not found in the middle line—epigastrium as in a stenosis of larynx, which exerts its influence on both sides of the chest, but only on that side where bronchus is compressed, in casu on the left one. I had later several times occasion to observe the patient during orthopnoic attacks, and found this phenomenon present to the same degree. Outside the attacks there was no drawing in, because the compression was not complete, and the respiratory sound in the

left lung was then, although weak, not entirely absent. But there appeared another symptom in near connection with the former, viz: a higher stand of disphragma on the left side, a lower stand on the right side. During the orthopnoic attacks the ventricular percussion reached the fifth, even the fourth costa on the left side, when the upper margin of the liver commenced at the seventh costa, and the lower margin of the liver could be felt half an inch below the costal curvature. This phenomenon indicates clearly that the left lung was in a collapsed state, the right lung being in a blown condition, the left lung receiving only a little air, the right lung vicariating so much more. This different capacity of the lungs, did not, however, manifest itself by measuring, the right side being only a little larger than the left, about 2-2½ centimeters. As a consequence of the collapsed state of the left lung, the percussion did not become dull (containing some air), but less sonorous, with a slight tympanitic tinge (noted in the diary October 15th.)

The demonstration of an aneurisma arcus aortœ compressing the lower part of trachea and of the left bronchus with secondary collapse of left lung and emphysematous blowing up of the right lung is consequently certified in this case. But still another series of symptoms presented itself, furthermore verify-

ing the diagnosis.

When the left bronchus is compressed by an aneurisma arcus, this must be so large that it hardly can be avoided, that n. recurrens sinstr., which is wound around arous aorto be is influenced by the large aneurism, The nerve is extended, flattened, changed from a round string to a thin, membraneous tape (I have in several autopsies noticed such a change); as a matter of course, its functions are suffering by it, and it is well known, that paralysis of the left vocal chord is the consequence. This, too, happened in our case. The larynscope had shown us that there was no paralysis a few days after his admission (August 15th), nor did the clearness of his voice at that time indicate any paralysis; but, little by little, his voice was altered, and the laryngoscopical examination now demonstrated (October 10th) paralysis of the left vocal chord, As this paralysis of the left vocal chord is perhaps, in respect to its symptomatology, not looked upon (by all) as it might be, it being erroneously considered as cause of considerable dyspnœa in the concerted patients, I shall try to throw a little light upon this point, The journal of said date says:

"The voice is somehow interrupted, not clear, has a higher sound than before, and is inclined to change into falsetto. By laryngoscopical examination, which has been repeated several times lately, is found that the right vocal chord is moved in normal way by respiration and by phonation, but that the left vocal chord remains immovably in cadaverous (') position, moving neither outward by forced inspiration nor inward towards the middle line at phonation. At phonation the right vocal chord reaches not only the middle line, but moves a little beyond to the left, the right arytenoid cartilage crossing the left one, passing before it."

What symptoms are produced by paralysis of the vocal chord only on one side? Quite often this is answered by: it produces dyspneea. But given in general, the answer is not quite satisfactory. During quiet respiration, when\* at rest, the open part of glottis is not as spacious as during forced respiration. It is only when an increased want of air manifests itself by bodily exercise, etc., that dilatatores glottidis get into full activity and open the whole glottis wide open, forming the largest possible oval or nearly a rhomb. Now, when one vocal chord is paralyzed and is standing in cadaverous position, there is ample space at quiet respiration, as the other vocal chord is capable of function and may be carried outward to any extent. For this reason, there does not exist any remarkable dyspnœa caused by paralysis of the left vocal chord in aneurisma arcus aorta, as long as the patient keeps quiet (as in No. 6); but if he tries to lift burdens, or has to walk fast, in short, if there be need of deep respiration, then glottis becomes too narrow, because the paralyzed chord remains in cadaverous position, not moving outward. The dyspnœa in aneurisma aorta is produced by quite different conditions; by compression of trachea, bronchus, pulmo, by disturbances in the circulation, and maybe by a centripetal action upon the respiratory centre.

With the voice, however, it is different; in paralysis of one of the vocal chords the voice always suffers. As one of the chords has its normal mobility and during the phonation is carried to the middle line, while the other one remains in cadaverous position, glottis can never be made sufficiently narrow, even if the healthy vocal chord, vicariating, be carried a little beyond the middle line, as we have seen it to be the case in our patient. For this reason the voice is weak and is produced only with difficulty; it is therefore straining to the patient to speak, and they have every instant to gasp for breath when speaking, in order to refill the lungs; they have the greatest trouble in keeping a long tune, the air being rapidly consumed (as in No. 6) in the same way as beginners in blowing the trumpet. This is one of the alterations in the voice. The second one is the hoarseness. The hoarseness appears when no other complications are present, as laryngeal catarrh, as a peculiar lack of clearness, the voice gets a different sound,

and has a great tendency to change into falsetto.

Returning to our patient, after this digression, we have yet to account for a series of disturbances in the circulation. Already at his admission to the hospital was noticed dilatation of the cutaneous veins around the left collar bone; this increased little by little, and October 9th was put down: left hand is cedematous; this gradually went up the arm to the shoulder, but did not involve the neck nor the breast; consequently left

<sup>\*</sup>E. i the position in which the vocal chord is in the corpse, between the position for deep, forced inspiration (remote from the middle line) and position for intonation (near the middle line).

vena subclavia was compressed by the aneurism, either almost entirely, or perhaps the compression was less considerable, but a thrombosis by compression had formed. Cyanosis, cold feeling, and similar phenomena in the left hand were also present. Still earlier than this disturbance in the vein, a similar one became manifest in the artery. September 28th was observed for the first time, (it will be remembered that the attention from the beginning had been directed to this symptom) that the pulse in the left art, radialis was weaker than on the right side. This increased gradually and is easily explained in supposing a compression of art. subclavia-sin. or rather a dislocation of its wall, and, consequently narrowing of its lumen at its exit from the aneurism, possibly a transfer of its lumen through coagulum. But one character of the pulse was missing in the patient viz., difference in time. a somewhat large aneurism exists on aorta, the blood wave is of course retarded by it, and the pulse in all the branches issuing below the aneurism is felt an instant later than it ought to be felt, compared with the pulse in the branches issuing above the aneurism. This is of course only when the cavity of the aneurism is not so much filled by coagula, that it is changed to a canal about the normal capacity of the artery. The correctness of this remark—about the possible significance of the aneurism being filled with coagula—is evident, but I have not been able to find any information about it in the literature, although I have looked for it, because the missing of a retarded pulse in the left art. radial. compared with the right one, and in artt. crurales compared with the right art. radialis induced me to make the diagnosis: aneurisma arcus aortæ magnum, sed coagulis obturatum.

The patient had then gradually presented most of the symptoms an aneurism on aorta may show, yet there were a few missing, besides the retarded pulse. He had, for instance, no neuralgies; certainly he had pains enough in the chest, but no distinct neuralgies, viz: following the course of distinct nerves. We might have expected neuralgies in the left arm, caused by pressure upon plex. brachialis; but this is after all, more distant from areus than from vena subclavia, and, at all events, the pressure did not reach this plexus as in our case. Nor was there any paralysis. Nor existed another symptom, that sometimes is noticed in aneurisms pressing upon one of the sympathicus colli, or acting upon it through reflex action,

viz: inconstant variations of the pupil.

We have yet to remark, that before his death we could feel the aneurism as a pulsating tumor in the depth of jugulum to the left of the middle line, consequently behind the left articulatio sterno-clavicularis. Taking in consideration, that the aneurism perceptibly acted upon art. subclavia sin. and vena subclavia sin., whilst neither art anonyma, nor art carotis sin. were influenced by it, we had to suppose that the aneurism occupied the hindmost part of arcus, where this passes into aorta descendens. And yet it was very plausible that the aneurism might occupy the upper part of aorta descendens. The diary of October 10, 1877, contains the following:

"On the back of the chest in the height of the fourth and fifth proc. spin., on the left side of the vertebral column, on a very limited space, is heard an intense double sound (similar to the propagated cardiac sounds) which has a peculiar, metallic-sounding character. The respiratory sound is in this place intensely bronchial. The percussion gives a doubtful dullness."

Death occurred November 26, 1877, and the autopsy showed the following, which is a short extract of the minutes: "On the upper part of aorta descendens is found an aneurism of the size of a goose egg, commencing from subclavia sin.—compressing the left bronchus and causing restraction of the left lung, which appears like a relaxed, leather-like bag, empty of air, the front margin of which is pushed aside and cowards behind, leaving a larger part as usually of the heart uncovered by the lung. The aneurism had excavated deeply third and fourth corp. vertebr. dorsi. The aneurism itself contained an abundance of liquid blood and a small quantity of coagulum."

As the minutes prove, the diagnosis was principally certified by the autopsy: the aneurism did, however, not contain much coagulum, as I had diagnosticated, and the missing of retarded pulse in the arteries below the aneurism is consequently not of as much significance as I had supposed it to be; at all events, not as sure in diagnostic respect. In another point we were enlightened by the autopsy. Ictus cordis was, at the patient's admission, felt rather extended as well in fourth as in fifth intercostal space. Although an increase of the dullness of the heart could not be certified, a possible hypertrophy could not be denied. When the diagnosis aneurisma aortæ became sure, I supposed a protrusion of the heart towards the wall of the chest as the most probable cause of the extended beat of the heart; but the autopsy having shown the considerable retraction of the lung, I do not doubt that the extended ictus cordis already at the time was due to a commencing retraction of the left lung, and I suppose, that it would have been possible later in the disease to notice a dilatation of the dullness of the heart, if the attention had been directed toward this point. The communication of this case has clearly shown that the diagnosis was made essentially through the indirect symptoms, at least in the beginning, the aneurism not touching the wall of the chest, at any rate not the front wall of the chest; and at an early date an indistinct pulsation was felt behind manubrium sterni, and a double sound was heard here; later was also found on the posterior surface of the chest, on the left side of fourth and fifth vertebra dorsi, on a very limited space, an intense double sound of a somewhat metallic-sounding character. The respiratory sound was in this place intensely bronchial, caused by the compression of the pulmonar tissue; a doubtful dullness was found in the same place. Finally a pulsating tumor was felt from jugulum downward to the left. In this way the direct symptoms also became gradually manifest, but yet it were the indirect symptoms, that from the beginning certified the diagnosis.

This is still more clear in the following case, which is communicated in abreviation:

5. Andreas O., 49 years of age, brewer, was admitted to the hospital a second time December 13th, 1877. He had been there a couple of years ago, and had in the meanwhile been treated by several physicians, in February, '76, and later in December, '76, by me, too (Reisz). His disease commenced four years ago without known cause. In the beginning he had pains in the upper part of the back, which gradually became more severe and often irradiated to the left side and like a girdle to the anterior surface of the chest and down in the left arm; these pains had a lancinating character. Proc. spinos of the upper vertebr. dorsi were sometimes but not always sore, and there seems sometimes to have existed tender points along the course of third to fifth intercostal nerve. To relieve these lancinating pains, he soon commenced using injections of morphia; a little later his breathing became short, especially at exertions, but sometimes without these and usually then in attacks in the night, too, so that he had to sit up and sometimes had to leave the bed. He also commenced coughing, which gradually became troublesome and at least at times was accompanied by an abundant foaming expectoration. Very early in the disease he commenced suffering from palpitations, with a feeling of fear and lack of air, even when he could draw his breath easily. He became very hypochondriac and consulted several physicians, even several at the same time. Such was his condition when he was admitted to the hospital for the first time; there was found a slight kyphoscolotic curvature in the pectoral region, the kyphosis being most pronounced, the scoliotic curvature to the right being slight. He had lost flesh, was dyspnoic, and there was found some irregularity in the action of the heart; the cardiac sounds, however, clear but weak. The diagnosis was consequently doubtful, and the idea pointed towards a new formation or spondylarthrocase in vertebr. dorsi or towards a tumor in mediastium post. possibly an aneurism, of which, however, there was not to be found any distinct trace. When he consulted me in February, 1876, I could not make any better diagnosis, but in December, 1876, it was different; when he presented himself he was very much emaciated; he had become hoarse and the examination showed now dullness of little extent on the back near fifth to seventh vertebr. dorsi on the left side and in this place were heard two sounds resembling cardiac sounds but metalic sounding (similar to the ticking of a watch); the cardiac sounds intermittent but clear. The laryngyscopic examination did not succeed and gave no

When he was admitted to the hospital a second time, a year later, in December, 1877, he was so emaciated that I could hardly recognize himperhaps caused by considerable abuse of morphia. Besides the formerly mentioned symptoms was now found: The beat of the heart shakes the chest in considerable extent, strongest in the place where the parasternal line crosses the fifth left costal cartilage, but yet the cardiac dullness reaches only from fourth to sixth rib, and from the left sternal margin to the parasternal line. The cardiac sounds are heard much propagated, frequent, irregular, intermittent, but clear. Pulse very irregular, about 144, small. At the accelerated respiration (28) the inspiration is slightly stridulous. On the anterier surface of the chest the stethoscopy of the lungs is normal. On the pesterior snrface the stethoscopy is also normal, except on the above indicated spot near the vertebral column, where the above mentioned abnormous sounds are heard. The pulse is in the left radialis weaker than on the right side, but isochronal with it, neither is found any retard in the pulse of aa. crurales compared with the pulse in the right radialis. He now soon became able to stand lary ngoscopic examination, which showed the following: Epiglottis on its inferior surface rather red and the lining membrane all over larynx also a little red, but not swollen. The vocal chords white, move both at inspiration towards the middle line, but do not reach this completely, leaving between their inner margins, that do not close thoroughly a narrow, oblong split. The left vocal chord is not any more paralyzed than the right one. The emaciation increasing and attacks of

dyspno and orthopnoæ recurring continually, he collapsed gradually, but death occurred yet unexpectedly and quite suddenly, February 23d, when he had been in the hospital forty-one days.

At the autopsy pericardium was found filled with about 600 cubic centim liquid blood, with large, fresh coagula, and at the top of pericardium just behind aorta descendens, on the place where it issues from pericardium, a ruptured opening of a linear, slightly angular shape, through which the blood consequently had entered into pericardium from aorta ascendens. Pericardium was periectly sound, the heart much covered with fat, considerably enlarged, right ventriculum dialated, its wall thickened by fat, but the muscular layer diminished; left ventriculum also dialated, the walls not thickened, 1 to 11 centimes thick. The muscular tissue of the heart in both sides fatty degenerated, the valves in the right heart normal, the valves of mitralis also, only the aortic valves a little thickened, noduli Arantis perfectly tight. In aorta ascendens and arcus considerable arteriosclerotic degeneration; just above the joint of the two posterior aortic valves was found the above mentioned linear rupture—2½ centimetre long —extending in proportion to the longitudinal axis of the vessel obliquely downwards from the right to the left side. Below areas on a orta descendens is found a large sack-shaped aneurism, which may hold half of a man's fist, about 9 centim. long, 6 centim. broad; it is situated on the posterior wall of the artery and is developed backward and to the left. communicating with the artery through a wide opening about the size of a 25 cent piece; it contains partially loose red coagula, partially firm, discolored ones in layers, representing the whole posterior wall, where the aneurismatic sack is destroyed by absorption corp. vertebræ dorsi. 4, 5, 6, 8 are much excavated, the interspacial cartilages prominent; the walls of the aneurism are very uneven, at places thickened, etc."

This aneurism had presented symptoms for over 4 years and I had had occasion to observe him, at least off and on, during the last three years. In the beginning the diagnosis was uncertain; there was dyspnœa, partially in attacks and coughing, and both these symptoms could not be accounted for by any disease of the lungs; at an early date palpitations and irregular action of the heart became manifest, but even if there existed some symptoms that might indicate an enlargement of the heart, the clear cardiac sounds contradicted the admission of a valvular defect, and this made it more plausible to suppose a fatty degeneration of the heart and dilatation; in fact, this was the diagnosis we made as to the heart at his first admission to the hospital. But at that time already, the severe neuralgic pains, irradiating from the region of 3d to 6th vertebra dorsi, and often extending to the left arm, induced us to presume the existence of some disease in said vertebræ, perhaps cancer, or a tumour in mediastinum posticum, possibly an aneurism. Only about a year after his first admission to the hospital did I hear a double sound to the left of said vertebræ and demonstrated slight dullness. He had at the same time become hoarse, and of course I supposed this to be caused by pressure on the left recurrens causing paralysis of the left vocal chord, but it was impossible for me at that time to carry through the laryngoscopic examination; we succeeded, however, during his second stay at the hospital, and we now received the quite unexpected information, that there was no paralysis of recurrens, but of both vocal chords, however, not of great importance; of the same character as the defect which is often found in nervous hoarseness and in catarrh of larynx; there existed in fact a catarrh, a universal redness of the whole lining membrane of larynx, but it was not considerable.

Possibly chronic poisoning with morphia, possibly paralysis by reflex action might be conjectured as cause. But whatever the cause of this paralysis may have been, sure enough, it was not caused by pressure on recurrens as the aneurism did not come in contact with neither the left nor the right recurrens, the aneurism being situated on aorta descendens, not on arcus aortæ. This complication of paralysis of both vocal chords in aneurisma aortæ thoracic, and independent of pressure by it, is certainly worth while noticing, the probability, of course, being very much for pressure. But when, on one hand, this paralysis did not contribute to certify the diagnosis of an aneurism, on the other hand, some other symptoms were so much more pronounced: the small radial pulse on the left side, and foremost, the direct symptoms, the dullness and the double sound on the left side of the vertebral column. Laboring under the uncertainty of a diagnosis, which only is based upon indirect symptoms, the appearance of these direct symptoms, amongst which, however, the pulsation was missing, is as a matter of course, greeted with delight; but these symptoms made their appearance only about two and a half years after the commencement of his disease. This patient, who had surprised us so much by the cause of his hoarseness, surprised us just as much, if not more, by the autopsy. He had died suddenly, as far as I recollect, after an agony of a few minutes duration; we might consequently, expect to find a rupture of the aneurism, as such not seldom is the final catastrophe in this disease, and effects the sudden death. As there had been no hæmoptysis nor hæmatemesis, we knew that perforation had not happened into the respiratory passage, nor to œsophagus, but we did, as a matter of course, not anticipate what actually was the case, that it was not the aneurism that had bursted, but aorta ascendens, just above the aortic valves, far from the aneurism, which was situated on aorta descendens; that aorta was friable was proved clearly enough by the autopsy, not only intima, but media, too, being as fatty degenerated as I ever saw it, and that consequently aorta, on account of its friability, might rupture, is easily understood; but yet, such a coincidence of an aneurisma aorta and sudden death by rupture of the vessel at a different place is no doubt solitary. I have not been able to find any similar case in the literature.

<sup>6.</sup> Mr. D., 57 years of age, is in the hospital under the diagnosis of aneurisma. For several reasons, but principally because the disease is still under observation, I shall here only give a cursory description of his case: There is no pathisis in the family; formerly always well; during about one and a half years coughing, expectoration, at times mixed with blood, shortness of breath at exertion, but not when at rest, however not considerable. These symptoms having lasted for about one and a half years, he became hoarse. The voice is not clear, is inclined to change into falsette; he cannot keep a long tune; he can only count to 20 without breathing. By the

laryngoscopy is found paralysis of left vocal chord, which remains in cadavenous position at intonation. The examination of the lungs has not yet shown anything abnormal, except slight dullness to the left of fourth to sixth vertebra dorsi; a double sound is heard here, however, without any characteristic type, but sounding like propagated cardiac sounds.

I shall not enter upon any commentary of this case; it is of interest by its numerous, but scanty hæmoptysis; these may often be premonitory in an aneurisma aortæ, when the wall of it is absorbed and trachea also, until the fatal hæmoptysis finally occurs, but it would yet be extraordinary that they should occur as early as in this case, when they have existed already for one and a half years. It may, however, be that we have to do with phthisis of the lungs, although the stethoscopy has

not yet shown any phthisical disturbances.

I have now communicated the six aneurisms on aorta thoracica that we have diagnosticated, and am going to mention two cases we did not diagnosticate. It must be remembered that the diagnosis of aneurisma aortoe is sometimes very uncertain. If the aneurism be not in contact with the wall of the chest, the direct symptoms are easily missing, and if it does not during its development come in collision with quite essential organs, it does not present indirect symptoms, or at all events, they are obscure ones. If the declaration of Quincke: "The diagnosis of the inner aneurisms is difficult, so difficult, that in most cases it is made only after death," were acecepted, we ought to deem ourselves very fortunate in having succeeded so often in making the diagnosis. But I do not believe Quincke's sentence to be correct; at any rate it ought certainly not to be so. There are some aneurisms on aorta which are overlooked, not because the symptoms are missing, but because they only are slightly predominant. This, I fear, is partially the case with one of the aneurisms we did not discover, viz:

7. Christian F. C., 50 years old, a blacksmith, was admitted October 30th, 1877, with hæmaturia, which was supposed to arise from a cystitis, phimosis, which required operation, septicemia, gangrene of a part of præpatium and he died 19 days after being admitted to the hospital. At the autopsy was found cystitis and disturbances in the exterior genital organs, and some other disorganizations originating from this i. e. emboli to the lungs, and besides an aneurisma arcus aorte; in mediastinum posticum was a little above the heart discovered a considerable tumor of nearly regular cardiac shape, apex turned upward and a little to the left, base downward, its length twelve centim. its breadth nine centim. etc. It was formed by an excavation of the convex and partially the anterior side of arcus aorta; it was lying close to but did not compress trachea and left bronchus, etc., etc.

We have perhaps no occasion for taking it to heart, that we did not succeed in making the diagnosis: aneurisma in such a miserable patient where all attention was concentrated on the urogenital organs and the septicomia. But perusing the diary afterwards, it yet strikes me that my attention was not attracted toward the idea of an aneurism, the journal mentioning that he had been suffering from cough for 3 months,

that gradually shortness of breath had been developed, the speaking had become interrupted and the voice a little hoarse.

8. Bengt, P., 45 years old, a gardener, was admitted December 14th, 1875, with emphysema pulmon. et bronchiectasia, which was considered sufficient to explain the cough and shortness of breath he was suffering from. A few days later he died from a fatal hæmoptysis, by which was evacuated ½ gallon of blood. The autopsy demonstrated an aneurisma art. anonymæ, which had perforated into trachea.

In the last two observations it is probably the existence of important diseases besides, that have masked the aneurism and allowed it to escape detection. Before closing this treatise we may perhaps once more point out the most striking features in the diagnosis of the aneurisms of the chest; amongst the ætiological points are, besides age, (and sex) especially syphilis and exertions of importance. Amongst the earliest subjective symptoms we have to notice dyspnæa, which often appears in attacks and of extraordinary importance is the dyspnæa, when it is not to be explained by the existence of some disease in lung or heart; but we must recollect, that the aneurism may exactly be found together with phthisis (No. 1 and possibly No. 6), with emphysema pulmonum (No. 8) and serious diseases besides (No. 7). There are, besides, the indirect symptoms, for instance the neuralgia, which in No. 5 play such an important part, and the other phenomena that especially in No. 4 present themselves so distinctly. The direct symptoms are, however, above all of importance, and in this respect I wish to point out, that we succeeded in No. 4, 5 and 6 to demonstrate dullness and double sound in the back to the left of the vertebral column, a circumstance which comparatively seldom is mentioned in the casuistry.

#### ON DIGITAL DILATATION OF THE OS IN LABOR.

By G. W. TRENHOLME, M. D., Montreal, Canada.

The very important and practical nature of this subject renders it worthy of more discussion than it has hitherto received. The appearance of an able paper by Professor Stevenson in your issue for August, 1878, also an excellent paper by Henry L. Horton, M. D., New York, on "The Pains in First Stage of Labor," in the American Journal of Obstetries for July, 1878, have induced me to take up the subject in the present brief paper. I may say, at the outset, that Professor Stephenson has ably advocated his view of the question, although it does not seem quite clear as to the way he would have the digital dilatation effected. He states, "The upward pressure must be exerted so as to push the lip of the cervix over the occiput," and yet a few lines further down says, "The part selected should never be the anterior lip." How could it be other than the anterior lip that is to be pressed upward, in occipitoanterior positions, I certainly fail to see. There is another point not very clear, viz: how "the degree of dilatation

of the internal os can be estimated by the condition of the upper portion of the vagina," How is it that "when the former is complete, the latter is also fully expanded and drawn upwards." The muscular tissue of the vagina being continuous with the external muscular layer of the uterus, would not seem to warrant this view.

It seems to be the well-established opinion of nearly all writers upon midwifery that repeated examinations of the os have a prejudicial effect even moderately gentle pressure being found to cause congestion, followed by heat and a lessening of the secretions. In other words, pressure upon the os irritates. This view of the case is strongly my own, and I must say I have never known efforts at digital dilatation (per se) do otherwise than cause mischief. In fact, there are but few accoucheurs who have not met in their consulting practice cases where a thick, congested, and inflamed condition of the os has not been the one and sole cause of instrumental interference, and consequent danger to the patient's life. This is especially apt to be the case with midwives, whose small remuneration for their services leads them to hasten, in this way, the first stage of labour. In my own experience the greater part of such cases occur where there are good reasons to doubt the patient's having gone to term. How often does it occur that all the prodromæ of a confinement are postponed for days and even weeks by early administration of a full opiate? At any rate, it occurs so often that we should hesitate to attempt digital dilatation where both the inner and outer os is thick. It has long been known and recognized by the profession that the inher os undergoes gradual and extensive dilatation during the last two weeks of gestation. Surely we have good reason to doubt if any woman has reached term whose os is found to be thick.

Another statement made by Professor Stephenson must be called in question, viz: "that we cannot get any degree of dilatation of the external os without the previous opening of the internal." I have met with cases just the reverse of this, and have notes of such labours during the past few years. In these cases the external os was very considerably dilated—sometimes to the extent of two inches in diameter—while the inner os (or, perhaps, inner layer of muscular fibres of the neck) was not dilated to the size of a sixpence. The pains suffered in such cases were most agonizing, but were speedily changed, to the relief of the patient and the hastening of the labor, to a rapid conclusion, by simply peeling the muscular layer off from its attachment to the decidua, and pressing it back all around, so as to make it continuous with the already dilated external os. I may say, however, that this condition has not been met by me where the liquor amnii had escaped.

I urge upon those who wish to test these views at the bedside, the necessity of making a very careful examination. In many cases the inner and undilated muscular layer is so thin that it may be mistaken for a thickened decidua, and so escape observation. However, the thickness of tissue between the finger and child's head, and the uneven surface presented to the finger, are sufficient to lead to its detection.

In such cases as these what is wanted is not dilatation, but simply that a thorough separation be effected between the decidua and the muscular layer adhering thereto. When this is done, nature, so far as my experience goes, rapidly and

easily completes the labor.

Before leaving the subject. permit me a few words with regard to raising the anterior lip above the pelvis when the os is fully dilated. In the first place, it is only when the os is fully dilated that this can be done. Secondly. Early attempts but add to the congestion already caused by pressure between the head and pelvis. Thirdly. This maneuvre is specially called for (a) where the thickened os diminishes the antero-posterior diameter of the pelvis; and (b) where, in addition to this, the intense pain caused to the mother by each uterine spasm greatly interferes with the expelling force; and (c) where the concavity of the sacrum is greater than normal. This last conformation allows the head and uterus to descend almost to the floor before extension takes place, and hence is very apt to be complicated with the anterior lip between the head and the pubis.—Obstetrical Journal, November, 1878.

#### THE SKULLS OF WOMEN.

M. Lebon, in a communication made to the Congrès d'Anthropologie in Paris, pointed out that, while the relative volume of the skull, compared with the rest of the skeleton, has increased with the progress of civilization, the difference in size between the skulls of men and women is also much less in the savage than among the civilized races. This difference was admitted by the ethnologists present, and was explained by the President, M. Broca, on the ground that among the primitive races women led much the same lives as men, and took an equal part in the struggle for existence. According to these anthropological data the "protection" of women and their exclusion from professional struggles has ended in lessening the cranial capacity, therefore presumably the brain-power.—Medical and Surgical Reporter, Nov. 16, 1878.

### CHLORAL AS A REVULSIVE.

This is the subject of a paper in the Bulletin de Therapeutique, No. 94, by Dr. H. Peyraud. Made into a mass with gum tragacanth, spread on paper and applied to the skin, it will produce a blister without pain. Applied as a powder, on cotton,

it causes a painful burning sensation. By the former method, a portion is absorbed and the patient falls asleep. Its action is not so uniform as cantharides, but as a mild vesicant, or an agreeable revulsive, the author quoted would commend such "chloral paper" to physicians, the more so as it will keep for months without losing its activity, if well prepared.—Medical and Surgical Reporter, Nov. 16, 1878.

#### THE BATTLE OF THE LIGATURES.

Mr. C. G. Wheelhouse said, in the address in surgery before

the British Medical Association, on this subject:

During the last few years I have been watching carefully and curiously the efforts that have been made to adapt the material of which ligatures are made, and to harmonize their necessary presence in wounds with the requirements of antiseptic surgery.

First, I have noted that various materials, elastic threads, catgut, horse bair, jute fibre, and silk of different kinds, all carbolized, of course, have, one after another, been employed. Secondly, the methods of their application have been almost as varied as the material of their structure; some surgeons have inclined simply to close the arteries without wounding their coats; and some, as of old, cut into these. One will cut off one end only of the ligature, while another will take away both

and leave the knot to be dealt with by absorption,

The conclusion at which I have arrived is that, as regards the whole subject, we are, for the moment, off the track, and are erring from true principles. I hold that the laws laid down by Jones as long ago as 1805, and afterward affirmed and substantiated by the late Mr. Hodgson, based as they were upon the safe ground of exhaustive experimental research, are as true now as they were when first promulgated, viz., that the only safe way of securing an artery is fairly to divide the inner and middle coats of the vessels, and that the only ligature to be trusted to do this efficiently is a well made, firmly twisted round cord of silk; that elastic threads, after dividing the coats, if they do so at all, lose their elasticity, yield when they should hold on firmly, and thus permit the efflux of blood; that catgut softens too readily, bursts or slips, and is thus unsafe; that silk ligatures, when cut off at both ends, fail to become absorbed, and become prolific sources of after mischief; and that horsehair fails not only to be absorbed, but acts as a source of direct irritation from first to last. With both these two last, when cut short, I have seen wounds heal perfectly, and all seem well; but later on small abscesses have formed in various parts of their track, and from each of these, when they have given way, I have had to remove the unabsorbed knots and minute circlets of ligature before they have finally become firm and sound.— Medical and Surgical Reporter, October 26, 1878.

### THE DETERMINATION OF SEX IN LITERO.

To the Editor of the Medical Record-Sir:- I have read with interest your editorial in the issue of the 2d inst., relating to the above subject, and followed by a communication from Dr. W. B. Neftel, published in the Medical Record of the 9th, and also one in your last issue, from Dr. Joseph A. Mudd.

I am led in this connection to air a theory of the generation of the sexes, which, if correct, will throw more light upon this mysterious subject of embryology, and will explain the law discovered by M. Thury, Professor in the Academy of Geneva. and referred to in Dr. Mudd's communication.

Observations and inquiries carefully made with a view to determine the correctness of this law, have established its truth.

in my own mind, beyond a question.

My experience extends over nearly eight years of obstetric practice, and in every case where I can obtain sufficient and accurate data upon which to base my calculations, I am able to predict the sex previous to delivery. The law is substantially

Conception resulting from intercourse subsequent to the menstrual flow will result in female offspring; while conception from intercourse in the latter half of the menstrual period, or previous to the menstrual flow, will result in male offspring. And it appears to me that a rational explanation is offered by

the theory which I propose.

The theory is based upon the supposition that there are both male and female sperm-cells, and that the female sperm-cells are vastly in excess of the male; while the male cells are stronger, more active, and more progressive. Such being the case, a coitus taking place just before or at the time of the menstrual flow, and while the ovum is still high up, would be most likely to result in the impregnation of the ovum either at the fimbriated extremity or within the Fallopian tubes by a male cell, whose greater strength and activity would enable it to reach the ovum first.

A coitus taking place later, while the ovum is retained within the uterus, where it would be exposed to the immediate contact of a large number of sperm-cells—the female cells being largely in excess—the probability of its being impregnated by a female cell would be enhanced just in proportion to the disparity of numbers. To explain why the sperm-cell producing power of the male should be expended in the production of a large preponderance of female cells is, perhaps, no more difficult than the solution of many of the knotty problems of physiology that are yet unsolved, and in regard to which we are all at liberty to conjecture. Is it not possible that hereditary developmental influence coming direct from the mother and inherent in the male, coupled with a sexual influence, ever more or less present, of the female over the male, may be instrumental in bringing about such a result.

In connection with the theory proposed, it would be interest-

ing to know if the sex of abdominal and tubal pregnancies were more frequently male than intra-uterine pregnancies. I regret that I am not able to produce statistical evidence upon this point.

Truly, yours,

H. U. UPJOHN, M. D.

Kalamazoo, Michigan, Nov. 25th.

### THE PELVIS AS A SIGN OF RACE.

The characters of the pelvis of different races of mankind have been made the subject of investigation by Fritch, of Halle, who arrives at the following conclusions from a number of measurements. The principal characteristic of the European pelvis is the transverse oval inlet and the distinct difference between the pelves of the two sexes. The negro pelvis is in general smaller, rather roundish, and has a narrow pubic arch. The pelvis of the Kaffir is slender, on the whole slightly developed, and differs little in the two sexes. That of Hottentots and Bushwomen is the smallest, and it is remarkable that the pelves of Bushmen children who have come under more civilized conditions showed an improved formation. The Chinese pelvis is said to differ little from the European. Of the Japanese. Wernich has described two forms: but, according to Fritch, this description is not free from doubt. The characters of the Malay pelvis are very well-known. It has a remarkably small average weight. The inlet is roundish, the sacrum more elongated, the iliac surfaces are large, and the pubic angle is wide. In the Australians, the conjugate is greater than the transverse diameter; the pelvis is small and light, and shows a distinct sexual difference. The American pelves are very well formed, with wide inlet and diminished depth of canal. The author concludes that it is the influence of nourishment, occupation, etc., that favors the formation of a well-shaped pelvis in the European, American and other races; while opposite influences lead to its deterioration, as among the Bushwomen. Whether certain habits of sitting, lying, etc., may explain the different sizes of the conjugate diameter, is not yet sufficiently determined.—British Med. Jour.—Hosp. Gaz., Nov. 21, 778.

#### THE TELEPHONE SAVES A LIFE.

A striking instance of the value of this new invention has just occurred in our city. Dr. Carson, of Bowling Green, had brought to Dr. W. O. Roberts a case of traumatic aneurism of the femoral artery, the result of a gunshot wound received two months ago. The opening in the integument had healed, but the scar over the wound of entry was thin and bulging.

While the patient was resting from his railway ride, in order to be in the best condition for the proposed operation, the cicatrix gave way, and the blood burst forth. Dr. Roberts, apprehending the possibility of this untoward event, had ordered the patient closely watched, leaving directions that he should be sent for instantly should hemorrhage occur. Toward midday Sunday the hemorrhage came, and a messenger was at once dispatched to Dr. Roberts' house, but he was absent. The doctor's wife at once telephoned him at his office, more than a mile from his house, but quite near the infirmary. In a few moments he was at the bedside of the bleeding man, and with the clever assistance of Drs. Holloway and Coomes, who fortunately were near at hand, he cut down on and ligated the femoral artery at the seat of wound, which was at the upper end of Hunter's canal. We hope at an early day to publish a full history of the operation.—Louisville Medical News, Oct. 12, 1878.

#### A SUBSTITUTE FOR TRACHEOTOMY IN CROUP.

The Canada Medical Recorder, September, quotes Dr. Palvadeau, in La Tribune Med., as using the hypodermic syringe for the purpose of injecting a solution containing equal parts of sol. ferri perchlor. and water, by piercing the trachea just below the thyroid cartilage. The membrane cannot resist this solution, and shreds rapidly come away, and cure follows speedily.

## ADDITIONAL DEATHS OF PHYSICIANS FROM YELLOW FEVER.

Memphis, Tenn., October 13th, Dr. F. H. Fonce, of Hot Springs, Ark. October 16th, Dr. M. F. Keating, of New York. Chattanooga, Tenn., October 13th, Dr. E. M. Baird and Dr. R. N. Barr.

Vicksburg, Miss., October 11th, Dr. Happoldt, of Morgantown, N. C. October 14th, Dr. Glass,

Pattersonville, Miss., October 19th, Dr. M. A. Roche.

Cairo, Ills., October 18th, Dr. Roswell Waldo, Surgeon of Marine Hospital.

Delta, Miss., October 22d, Dr. Gilland, Health Officer.

Holly Springs, October 24th, Dr. Compton. Clinton, La., October 23d, Dr. Covert.

### NEW TREATMENT OF OPIUM POISONING.

Dr. Selden, of Norfolk, Va., reports, in the Virginia Medical Monthly, that he has had excellent success in treating patients, where death seemed inevitable from overdoses of opium, by immersing the feet in scalding water. This causes a constant and intense pain, which arouses the torpid brain and at the same time creates a tolerance of the opium. If hot (or boiling) water is not at hand, the flame from a lighted match or newspaper might be used instead.

TREATMENT OF OBSTINATE SCIATIC BY SUBCUTANEOUS INJEC-TIONS OF NITRATE OF SILVER.

Dr. Dureau has collated the cases of obstinate sciatica treated in the Parisian hospitals by Damaschino and Guérin-Rose on Luton's plan, and has deduced from them the following conclusions:

1. The subcutaneous injections of nitrate of silver are to be

recommended in cases of inveterate sciatica.

2. These injections, though irritating to the tissues, may be undertaken without any fear of evil consequences.

3. The method renders it possible to reach the diseased spot

and to insure the action of the remedy.

4. Improvement and recovery take place rapidly under this treatment.

5. The subcutaneous injections of lunar caustic are more active and less dangerous than the actual cutting, which is so

frequently recommended for sciatica,

Luton employed a ten per cent, solution of the nitrate of silver, and injected from twenty to twenty-four drops, but Guérin-Rose uses a fifteen per cent. solution, and injects fifteen drops, and Damaschino takes one of only four per cent., and injects only five drops. Of twelve cases treated by Guérin-Rose, most were cured, a few were improved and a few were not affected at all. No unfavorable consequences were observed in any of the cases. Dr. Dureau advises that the needle be introduced deeply, so as almost to reach the nerve.—Medical Record, November 23, 1878.

# Bulletin of the Public Health.

Issued by the Surgeon General, United States Marine Hospital Service, under the National Quarantine Act of 1878.

No. 29. January 25, 1879

OFFICE SURGEON GENERAL, M. H. S. ) Washington, Jan. 29, 1879.

Yellow Fever.—The existence of two cases at Handsborough, Miss., on January 17th, was reported by the attending physician.

Boston.—Week ended January 25th. Deaths from all causes 158, an annual ratio of 22.5 per 1000 of the population. There were 22 cases of scarlet fever and 11 deaths; 32 cases of diphtheria, 12 deaths; 25 deaths from phthisis, 14 deaths from pneumonia, 6 deaths from bronchitis.

Brooklyn,-2 weeks ended January 25th, Total deaths 507

Annual ratio 23.5 131 cases of scarlet fever, 32 deaths; 98 cases of diphtheria, 20 deaths; 48 deaths from phthisis, 92

from acute lung diseases.

Philadelphia.—Week ended January 25th. Deaths from all causes 324. Annual ratio 19.2. There were 6 deaths from scarlet fever, 10 from diphtheria, 11 from enteric fever, 58 from phthisis.

Baltimore.—Week ended January 25th. Total deaths 159. Annual ratio 22.6. 2 deaths from enteric fever, 2 from scarlet fever, 6 from diphtheria, 28 from phthisis, 21 from pneumonia.

District of Columbia.—Week ended January 25th. Total deaths 76. Annual ratio 24. 5 deaths from scarlet fever, 2 from diphtheria, 1 from enteric fever.

Cleveland. — Week ended January 25th. Total deaths 49. Annual ratio 16. 1 death from scarlet fever, 8 from diphtheria. Milwaukee.—3 weeks ended January 25th. Total death 126.

Annual ratio 18.5. 58 cases of diphtheria, 18 deaths.

Chicago.—Week ended January 18th. Total deaths 161. Rate 18. 6 deaths from scarlet fever, 15 from pneumonia, 16 from phthisis, 28 from acute pulmonary diseases.

St. Louis.—Week ended January 25th. Total deaths 135. Annual ratio 14. 5 deaths from diphtheria, 25 from pneumonia, 14 from phthisis.

San Francisco.—Week ended January 17th. Total deaths 93. Rate 16, 2 deaths from scarlet fever, 2 from diphtheria, 4 from enteric fever, 11 from phthisis, 18 from pneumonia.

Havana.—Week ended January 25th. 3 deaths from yellow

fever, 12 deaths from small pox.

Great Britain.—Week ended January 4th. The average annual death rate for the 23 large cities of the kingdom was 29 per 1000, being 20 at Brighton and Portsmouth, 26 at Sheffield, 30 at Birmingham, 33 at Liverpool, 36 at Manchester, 25 at Edinburgh, 30 at Glasgow. The recent excessive mortality from acute pulmonary disease is diminishing.

London.—Week ended January 4th. Total deaths 1900. Annual ratio 27.4. Measles caused 34 deaths, scarlet fever 29, diphtheria 16, whooping cough 65, small-pox 13. Of the latter disease 254 cases remained in the hospitals on January 4th.

There were 555 deaths from acute pulmonary diseases.

Dublin.—Week ended January 4th. Total deaths 306, an annual ratio of 51 per 1000 of the population, 104 of the deaths resulted from acute lung diseases, 4 from scarlet fever, 1 from diphtheria, 22 from small-pox. The death rate has risen with great rapidity, and small-pox prevails among all classes of the population. 72 new cases were received into the hospitals during the week.

Paris.—Week ended January 2d. Total deaths 947. Annual

ratio 25. 7 deaths from small-pox.

Vienna.—Week ended December 28th. Total deaths 382. Annual ratio 27.3. 15 deaths from small-pox, 22 from diphtheria.

German Empire—Week ended December 28th. In 150 cities with an aggregate population of 7,427,000, there were 3,672 deaths, an average of 25.7 per 1000; 45 per cent. of the deaths occurred in children under 5 years of age. Diphtheria caused 212 deaths, scarlet fever 93, measles 57, whooping cough 58, enteric fever 56, phthisis 508; acute lung diseases 412. Death

rate at Berlin 26, Munich 32, Dresden 24, Hamburg 23.

St. Petersburg.—Week ended December 21st, total deaths 589. Annual ratio 46. Small-pox caused 37 deaths, enteric and typhus fevers 42 deaths. The disease prevailing in Southern Russia has been definitely recognized by the Russian health authorities as the plague. At Astrakan there were 195 cases, of which 143 proved fatal during the first two days of January. Precautions are being taken by most of the European Governments against its introduction into their respective countries.

The report of the government inspector appointed to investigate the cause of a recent epidemic of diphtheria in North London, traces the source of infection to the milk supplied to the affected households. None of the ordinary means of infection of milk by polluted water, or by the vicinage of diphtheritic infection in any discoverable form, could be ascertained, and the report suggests the probability of the infection being derived from some pathological condition existing in the cows.

# No. 30. February 1st, 1879.

Boston.—Week ended February 1st. Deaths from all causes 144, an annual ratio of 20.5 per 1000 of the population. 27 cases of scarlet fever, 4 deaths; 23 cases of diphtheria, 9 deaths; 27 deaths from phthisis, 27 from pneumonia and bronchitis.

New York.—2 weeks ended February 1st. Total deaths 1363. Annual ratio 29.6. 9 deaths from enteric fever, 108 from searlet fever, 39 from diphtheria, 207 from phthisis, 241 from acute

pulmonary diseases.

Brooklyn.—Week ended February 1st. Total deaths 232. Annual ratio 21.5. 81 cases of scarlet fever, 12 deaths; 37 cases of diphtheria, 9 deaths; 29 deaths from phthisis, 51 from acute lung diseases. On account of the prevalence of small-pox in various foreign cities in constant communication with ports of the United States, the city has authorized the expenditure of \$5000 for vaccination.

Rochester.—Month ended January 31st. Total deaths 125. Annual ratio 18.3. 1 death from enteric fever, 1 from scarlet fever, 1 from diphtheria. Acute pulmonary diseases prevalent.

Philadelphia.—Week ended February 1st. Total deaths 391. Annual ratio 23. 9 deaths from enteric fever, 13 from scarlet fever, 6 from diphtheria, 69 from phthisis, 54 from pneumonia.

Baltimore.—Week ended February 1st. Total deaths 158. Annual ratio 22.5. 3 deaths from enteric fever, 4 from diphtheria, 27 from phthisis, 27 from pneumonia.

District of Columbia.—(Including Washington and Georgetown.) Week ended February 1st. Total deaths 100. Annual ratio 32.5. 4 deaths from scarlet fever, 1 from diphtheria 12 from phthisis.

Pittsburg. — Week ended February 1st. Total deaths 46. Annual ratio 16.5. 7 cases of enteric fever, 2 deaths; 7 cases of scarlet fever, 1 death; 10 cases of diphtheria, 5 deaths.

Cleveland.—Week ended February 1st. Total deaths 37. Annual ratio 12. 8 cases of scarlet fever, 3 deaths; 11 cases of diphtheria, 5 deaths,

Cincinnati.—3 weeks ended February 1st. Total deaths 346. Annual ratio 21. 50 deaths from searlet fever, 20 deaths from

diphtheria.

Chicago.—2 weeks ended February 1st. Total deaths 261. Annual ratio 15. 5 deaths from scarlet fever, 12 from diphtheria, 5 from enteric fever.

St. Louis.—Week ended February 1st. Total deaths 111.

Annual ratio 12. 5 deaths from enteric fever, 2 deaths from

diphtheria.

San Francisco.—Week ended January 25th. Total deaths 111. Annual ratio 19. 2 deaths from enteric fever, 2 from

scarlet fever, 4 from diphtheria.

New Orleans.—2 weeks ended January 26th. Total deaths 270. Annual ratio 33.4. 45 deaths from phthisis, 68 deaths from acute pulmonary diseases. No deaths from diphtheria or scarlet fever reported.

Havana.—Week ended February 1st. Yellow fever caused

3 deaths, small-pox 7.

Great Britain.—2 weeks ended January 18th. In 23 cities with an aggregate population of 8,503,000, there were 9182 deaths, an average annual ratio of 28.5 per 1000. The death rate at Brighton was 17, Portsmouth 19, Sheffield 24.5, Birmingham 30, Liverpool 34, Manchester 35, Edinburgh 23, Glasgow 27.5, Dublin 46.5. Scarlet fever prevalent in Birmingham and Liverpool.

London.—In the 2 weeks there were 3820 deaths. Annual ratio 27.5. Measles caused 49 deaths, scarlet fever 100, diphtheria 15, whooping cough 133, acute pulmonary diseases 1293. Small-pox caused 24 deaths; nearly 300 cases remained in the

hospitals on January 18th.

In Dublin small-pox is on the increase, over 200 new cases and 45 deaths having occurred in the fortnight.

Paris-Week ended January 16th, Total deaths 1039; 11

from small-pox. Annual ratio 27.

German Empire—Week ended January 4th. In 150 cities with an aggregate population of 7,541,000, there were 3,748 deaths, an average annual ratio of 25.8. Measles caused 44 deaths, scarlet fever 75, diphtheria 186, whooping cough 57, phthisis 510, acute lung affections 427.

St. Petersburg.—Week ended January 4th. Total deaths

574. Annual ratio 44. 54 deaths from small-pox.

Rio de Janeiro.—Four weeks ended December 28th. Total deaths 863. Annual ratio 39. Yellow fever caused 10, "per nicious" fever 20, small-pox 137 deaths. Small-pox has been raging with great intensity in the Northern provinces of Brazil, especially in Manaos and Ceara. In Fortalez, the capital of the latter province, 1077 persons died from the disease on November 28th and 29th, the total deaths for the month amounting to 11,075; small pox causing 9,844. The regular population of the city is 23,000, and the usual mortality about 900 per annum. From the 1st to the 11th of December the deaths from small-pox numbered 7,547. The present population of Fortalez is greatly in excess of the usual number, on account of the influx of starving refugees from the interior where famine prevails. The want of food, care and shelter, and of medical attendance, has greatly favored the spread of the epidemic which, up to December 13th, was unchecked. The "black plague" has also prevailed to some extent. During December at Bahia there were 18 deaths from small-pox, and at Pernambuco 185 from small-pox, 5 from yellow fever. Annual ratio 58.

#### No. 31. February 8th, 1879.

Boston—Week ended Feb. 8th. Deaths from all causes 144. Annual ratio 20.5. 21 cases of scarlet fever, 5 deaths; 22 cases of diphtheria, 10 deaths; 9 deaths from bronchitis, 13 from pneumonia, 28 from phthisis.

Providence—Week ended Feb. 8th. Total deaths 30. Annual ratio 15.6. 1 death from enteric fever, 5 from scarlet fever,

5 from acute pulmonary diseases, 9 from phthisis.

New Haven—Two weeks ended Feb. 8th. Total deaths, 37. Annual ratio 16. No deaths from scarlet fever or diphtheria reported.

New York—Week ended Feb. 8th. Total deaths 602. Annual ratio 28.7. 4 deaths from enteric fever, 69 from scarlet fever, 21 from diphtheria, 102 from phthisis, 105 from acute

pulmonary diseases.

Brooklyn—Week ended Feb. 8th. Total deaths 234. Annual ratio 21.7. 1 case of enteric fever, 1 death; 77 cases of scarlet fever, 6 deaths; 41 cases of diphtheria, 12 deaths. Croup caused 8 deaths, acute respiratory diseases 37, phthisis 31.

Philadelphia—Week ended Feb. 8th. Total deaths 353. Annual ratio 20. Enteric fever caused 2 deaths, scarlet fever 9, diphtheria 8, whooping cough 2, acute pulmonary diseases

63, phthisis 56.

Baltimore—Week ended Feb. 8th. Total deaths 134. Annual ratio 19. 6 deaths from enteric fever, 7 from scarlet fever, 4 from diphtheria, 25 from pneumonia and bronchitis, 28 from phthisis.

District of Columbia (including Washington and Georgetown).

—Total deaths 82. Annual ratio 26.6. Enteric fever, searlet

fever and diphtheria caused each 1 death. Acute pulmonary

diseases 17, phthisis 13 deaths.

Louisville, Ky.—Week ended February 8th. Total deaths 60. Annual ratio 19.5. 2 deaths from scarlet fever, 1 from croup, 11 from acute pulmonary diseases, 13 from phthisis.

New Orleans.—Week ended February 2d. Total deaths 92. Annual ratio 22.6. 1 death from typhus fever, 1 from diphthe-

ria, 24 from acute lung diseases, 11 from phthisis.

Salt Lake City.—Month of January. Total deaths 78. Annual ratio 37. 23 deaths from diphtheria, 4 from croup, 3 from scarlet fever.

San Francisco.—Week ended February 1st. Total deaths 81. Annual ratio 13.8. 2 deaths from enteric fever, 4 from diph-

theria, 15 from pneumonia, 12 from phthisis.

Havana—Week ended February 8th. Yellow fever caused 3 deaths, small-pox 8 deaths. During 1878 there were 8,594 deaths in the resident population of 195,437, an annual ratio of 44 per 1000. There were 2,913 additional deaths among the troops, the number of whom is nnknown. 2553 deaths occurred in July and August, 878 being from yellow fever. During the year phthisis caused 1714 deaths, enteric fever 155, "malarial" fevers 416, small-pox 1225, yellow fever 1559. The number of deaths from yellow fever did not differ essentially from the annual average number. The disease is endemic in the island, and is confined with rare exceptions to persons of the Caucasian race not born on or acclimated in the island. The natives and persons of the African and Asiatic races are considered to be nearly exempt from it. The summer mortality is nearly double that of the winter months.

Rio de Janeiro.—Week ended January 4th. Total deaths 229. Annual ratio 39. Small pox caused 21 deaths, yellow fever 6, "pernicious" fever 4. The latest advices state that small-pox is still increasing in the Northern provinces of Brazil. 21,473 deaths from the disease occurred in Fortalez between the 1st and 20th of December. (Vide preceding num-

ber of bulletin.)

Great Britain.—Week ended January 25th. In 23 cities with an aggregate population of 8,503,000, there were 4381 deaths, an average annual ratio of 27 per 1000 of the population. The death rate at Plymouth was 20, Portsmouth 21, Birmingham 24, Brighton 25, Sheffield 27, Liverpool 31, Manchester 34, Edinburgh 21, Glasgow 29, Duoliu 43. Small-pox caused 19 deaths in the latter city.

In London during the week there were 1812 deaths. Annual ratio 22. Measles caused 18 deaths, scarlet fever 46, diphtheria 7, whooping cough 71, fevers 25, diarrhea 13. The deaths from small-pox increased to 24, and the number of cases in the

hospitals to 311.

St. Petersburg.—Week ended January 11th. Total deaths 601. Annual ratio 46.7. Small-pox caused 48 deaths, enteric and typhus fevers 48. The official reports of the Russian Med-

ical Inspectors sent to Astrakan state that several villages have been depopulated by the prevailing disease. In Vetlianka, a village of 1800 inhabitants, there had been 300 cases with 273 deaths up to January 12th. The remainder of the people had fled. The reports also state that the excessive mortality, over 90 per cent., is caused by want of food and bad sanitary conditions. Quarantines have been established by the Austrian and Italian governments, and the health authorities of British ports have directed careful sanitary inspection of all vessels arriving from the Black Sea.

Paris.-Week ended January 23d. 1071 deaths. Annual

ratio 28. 12 deaths from small-pox.

Vienna.—Week ended January 18th. 397 deaths. Annual

ratio 28. 13 deaths from small-pox.

An official telegram of February 11th states that the schooner White Wing, from the island of Ruatan has been quarantined at Key West, the captain being sick with yellow fever.

#### No. 32. February 15th, 1879.

Boston—Week ended Feb. 15th. Deaths from all causes 155, an annual ratio of 22.1 per 1,000 of the population. 18 cases of scarlet fever, 2 deaths; 22 cases of diphtheria, 9 deaths. Bronchitis caused 6 deaths, pneumonia 19, phthisis 26,

Providence—Week ended Feb. 15th. Total deaths 41. Annual ratio 21. 5 deaths from scarlet fever, 5 from diphtheria. Scarlet fever prevalent and increasing.

New York—Week ended Feb. 15th. Total deaths 554. Annual ratio 26.3. 69 deaths from searlet fever, 12 from diphtheria, 18 from whooping cough, 35 from bronchitis, 55 from pneumonia, 101 from phthisis.

Hudson County, N. J. (including Hoboken and Jersey City)—Week ended Feb. 15th. Total deaths 61. Annual ratio 16. Enteric fever caused 3 deaths, scarlet fever 2, diphtheria 3, acute lung diseases 9, phthisis 10.

Brooklyn—Week ended Feb. 15th. Total deaths 222. Annual ratio 20.4. 5 cases of enteric fever, 2 deaths; 71 cases of scarlet fever, 9 deaths; 44 cases of diphtheria, 11 deaths; 40 deaths from acute respiratory diseases, 33 from phthisis.

Buffalo—Week ended Feb. 15th. Total deaths 31. Annuat ratio 12. 4 deaths from scarlet fever, 2 from diphtheria.

Philadelphia—Week ended Feb. 15th. Total deaths 349. Annual ratio 21. Enteric fever caused 5 deaths, scarlet fever 9, diphtheria 9, acute pulmonary diseases 71, phthisis 60.

Pittsburg—Two weeks ended Feb. 15th. Total deaths 121. Annual ratio 21.7. Enteric fever caused 5 deaths, scarlet fever 3, diphtheria 11 deaths.

Baltimore-Week ended Feb. 15th. Total deaths 160. An-

nual ratio 22.8. 1 death from euteric fever, 6 from scarlet fever, 10 from diphtheria, 31 from acute pulmonary diseases, 25 from phthisis.

District of Columbia (including Washington and Georgetown) —Week ended Feb. 15th. Total deaths 87. Annual ratio 28.3. Scarlet fever caused 3 deaths, diphtheria 2, acute pulmonary diseases 18, phthisis 18.

Chicago—Two weeks ended February 15th. Total deaths 244. Annual ratio 14. Enteric fever caused 6 deaths, scarlet fever 5, diphtheria 16, acute lung diseases 42.

Milwaukee—Week ended February 15th. Total deaths 40. Rate 18. Five deaths from diphtheria.

Louisville—Week ended February 15th. Total deaths 58. Annual ratio 19. Diphtheria caused 1 death, acute lung affections 16, phthisis 8.

St. Louis—Two weeks ended February 5th. Total deaths 215. Annual ratio 112. Enteric fever caused 1 death, searlet fever 2, diphtheria 5, phthisis 36, pneumonia 29.

Richmond—Two weeks ended February 15th. Total deaths 61. Annual ratio 22. Scarlet fever caused 8 deaths, acute lung diseases 9, phthisis 8.

Savannah—Two weeks ended February 15th. Total death 8 41. Annual ratio 38. Death rate among the negroes twice as great as among the whites.

Mobile—Week ended February 15th. 17 deaths. Annual ratio 22. One death from diphtheria. City very healthy with exception of epidemic of influenza.

New Orleans.—Week ended February 9th. Total deaths 87. Annual ratio 22. Acute lung diseases caused 14 deaths, phthisis 17. No deaths reported from scarlet fever or diphtheria.

San Francisco.—Week ended February 7th. Total deaths 101. Annual ratio 17.5. Enteric fever caused 2 deaths, scarlet fever 1, diphtheria 4, acute lung diseases 18, phthisis 15.

Havana.—Week ended February 15th. Yellow fever caused 1 death, small-pox 13.

Great Britain.—Week ended February 1st. The average death rate of the 23 large cities was 28, Dublin 49, Liverpool 36, Manchester 35, Glasgow 29, Edinburgh 25, Sheffield 25.

London.—1821 deaths. Annual ratio 26. Measles caused 23 deaths, scarlet fever 33, diphtheria 14, whooping cough 64, acute lung diseases 541. 28 deaths from small-pox in London, 21 in Dublin.

German Empire.—2 weeks ended January 18th. In 150 cities there were 7446 deaths, an annual average rate of 26 per 1000 Measles caused 94 deaths, scarlet fever 184, diphtheria 352, whooping cough 105, acute lung diseases 666, phthisis 1015.

Paris.—January 24th to 30th. Deaths 1109. Small-pox caused 8, diphtheria 28, enteric fever 21.

Vienna.—January 19th to 25. Deaths 421. Rate 30. Small-pox saused 13 deaths, diphtheria 21.

St. Petersburg.—January 12th to 18th. Deaths 623. Rate 48. Small-pox caused 58 deaths.

Rio de Janeiro.—2 weeks ended January 18th. Deaths 393. Annual ratio 34. Yellow fever caused 30 deaths, small-pox 30. enteric fever 11, pernicious fever 20. No deaths from diphtheria or scartet fever reported:

The United States Consul at Pernambuco reports that in the interior of the province of Cerea, a severe drought has prevailed for two years and a half, no rain having fallen during that time, the excessive dryness caused the disappearance of the innumerable small streams which furnished the whole water supply of the country, the consequent death of nearly all the cattle and sheep, and the complete destruction of the usual means of subsistence of the population, which is an agricultural one. The people have been reduced to subsistence on roots, cotton-pods, reptiles, and any living or dead thing that would sustain life, some resorting even to cannibalism. In the winter of 1878, small pox appeared in epidemic form and caused a frightful mortality among the starving people. A general flight of the people from the interior to the coast cities occurred. The normal population of 25,000 in Fortaleza, the capital, was quickly raised to 100,000, the squares of the city being filled with thousands of unsheltered people, dying of disease and starvation. One-half of the original population of the city have died of small-pox. In the new cemetery of Lagoa Funda, opened in the middle of last year, there were 60,000 interments up to January 1st. The number of burials from small-pox alone, between November 1st and January 1st in this cemetery were 24,470; the total interments in the city for the two months being 31,571. At Parahyba, 12,000 refugees out of 15,000 who had fled to the port died, and similar distressing accounts are given of the other coast cities. The consul estimates the usual population at 900,000, of whom 500,000 have died of disease and starvation. The Brazilian Government have expended \$10,000,000 for the relief of the sufferers. At last advices slight rains have fallen in the interior, and it is believed that the worst period of the scourge has been passed.

JNO. M. WOODWORTH, Surgeon-General, U. S. M. H. S.

#### EDITORIAL.

The Duty of Physicians in Respect to Public Sanitation; Designed to Meet the Present Emergency.

We consider the following two statements to be indisputable facts: First, that there is at the present time an emergency requiring carefully ordinated and co-operative work in the interests of public health; Second, that no legislation, either State, or National, need be looked for in any degree adequate to the emergency existing.

All of our readers understand that the emergency spoken of relates more directly to the Southern States, and, especially among these, to Louisiana and her great commercial city. The emergency is constituted by the liability to another outbreak of yellow fever during the present year. The disease is assuming epidemic proportions in seaboard cities south of us, with which we hold close commercial relations. There is therefore a direct multiplication of chances for its importation. On the other hand, however severe the winter has fortunately been, it is more than likely that infected bedding, or other form of fomites, has been carefully put away somewhere about this city, or in other places of epidemic prevalence, in situations which will protect the germs from a degree of cold sufficient to destroy their vitality. Whatever may be individual theories regarding exotic or indigenous derivation of yellow fever poison, there can be no dispute as to an increased liability to outbreaks of the disease in 1879. What is being done to meet the emergency, or to avert it? The President of the State Board of Health declares his intention to compel ships from infected ports to change cargo, and probably in some instances to refuse permission for them to come into port. Such measures will be approved by the highest sanitary authorities of the country.

If, in addition to these regulations, an efficient refrigerating machine could be located upon the wharf or bank of the river, so as to force currents of very cold air through the holds of the ships, the danger of introducing infection would be greatly diminished. But this invaluable arm to a quarantine establishment would cost money,—certainly twenty or thirty thousand dollars, which legislative Solons are not likely to vote away for

such purposes, unless under the influence of fright occasioned by the immediate presence of an epidemic visitation,

The Bible history of the plagues of Egypt is satirically typical of ourselves. We are such saints when the terrible pestilence makes its presence felt; but such other saints are we, while it is so far off that we only read of it in the telegraphic columns at our breakfast tables. May we not imagine the following to be a paraphrase of the chorus to a bacchanalian overture at an Egyptian feast held in the intervals between their plagues?

It's certainly quite true!—our lingo est; That Yellow Jack far off—by jingo, est. We'll drink ourselves red like a flamingo breast. Whan Jack comes back, we'll call on the priest.

Bronze Jack is now far away, "dictum est:"
Nothing among our crowd, to afflict 'em est,
Hand around the wine cup—" prescriptum est."
When Jack comes back we'll call on the priest.

In default of legislative action in aid of public sanitation, largely increased obligations attach themselves to the ordinary duties of our profession. We do not have authority to control that machinery and those means necessary to secure cleanliness and good hygiene in our respective communities. But, like the old Apostles, we can declaim against vices beyond our immediate control, until we create a sentiment, which, by its universality, will compel reforms. Even in discharging this duty we are met by strong opposition. It was only yesterday that a leading merchant of New Orleans in conversation with the writer, found serious fault with one of our health officials, because he had published violations of sanitary laws in our very midst, shameful to our civilization, to say nothing of their pernicious influence upon public health. "This publication will injure us more than an epidemic," said the merchant. "But, first of all, is it true?" I enquired, and this ended the dialogue. The physicians of this city and State are not able to realize the power of a united profession, since such an occurrence here could not be truthfully recorded by historians of the past or present. But, by looking to the example and present state of the profession in Alabama, a glimpse may be afforded us of power and prosperity equally attainable

by ourselves, if the pursuit be similarly conducted. In Alabama the medical profession controls public sanitation. The last Legislature of that State passed a law giving the State Medical Society three thousand dollars a year as a regular annuity. Here we waste our time and energies ventilating unprovable tenets as to whether yellow fever can, or does ever originate here, or a question still less profitable in its discussion, whether persons born here can have yellow fever. In the heat of debate, we forget that these questions have been discussed with equal ability, and, probably, yet more of rancor, in many other theatres than this. Discussion fails to settle them. Time is the only high court to whom the appellant must look for a truthful solution, and the medical profession seems doomed to pass through cycles of mist and confusion, as the earth through geologic transitions.

Why should we not try a new departure? The State Medical Association of Louisiana meets next month. Why not make one earnest effort to unite on several questions which are too practical and plain to admit of disagreement? The first of these comprises everything concerning drainage, filth, drinking water, and general hygiene of our cities and towns. Why not appoint committees to report and to memorialize the Legislature on these points?

But there is yet another question which should be thoroughly discussed. This is "Inland Quarantine." No medical gentleman of New Orleans, or elsewhere, need offer the common criticism here, that all quarantines are either needless or impracticable. Both of these statements, however violent, may be admitted, and yet inland quarantine is among the most important of all the subjects for discussion at the State Medical Conventions to be held this year in Louisiana, Alabama, Mississippi, Texas, Arkansas, and Tennessee. The reasons upon which this assertion is based, are obvious to all who understand the temper and sentiments of the inhabitants occupying the interior portions of these States. The first report of a death from yellow fever in any seaboard town, will be the signal for the establishment of burdensome and harsh measures for enforcing non-intercourse.

These lines for the arrest of personal intercourse and traffic, are arbitrarily fixed, and often cut off the sick from medical attendance, and besides this, have the general effect of lowering the tone of civilization and stifling those Christian sentiments which teach us to minister to those in affliction. If, therefore, we as physicians have no power to interfere with the establishment of inland quarantines, let us not content ourselves with this fact, but let us strive to modify them and give them a uniformity of feature which they now lack, and let us, beyond all, so arrange in regard to them, that members of our profession shall have the leading parts to play in the adjustment of their plans.

#### BOOKS AND PAMPHLETS RECEIVED.

- Apparatus for Transfusion—Asphyxia in New-born Children— Considered from a Medical and a Legal Standpoint. Papers read before the New York Obstetrical Society. By H. J. Garrigues, M. D. Reprint from American Journal of Obstetrics, Vol. XI.
- On Gastro-Elytrotomy—By Henry J. Garrigues, M. D., Fellow of the American Gynceological Society, Fellow of the New York Obstetrical Society, etc. Reprint from the New York Medical Journal.
- On the Treatment of the Various Forms of Acne and of Rosacea— By R. W. Taylor, M. D., Professor of Diseases of the Skin in the University of Vermont, Surgeon to Charity Hospital New York, etc.
- Sub-Sulphate of Iron as an Antiseptic in the Surgery of the Pelvis—By H. P. C. Wilson, M. D., Baltimore, Md. Reprint from Volume II Gynceological Transactions, 1878.
- The Germ Theory of Disease, and Its Present Bearing Upon Public and Personal Hygiene—By Joseph G. Richardson, M. D., Professor of Hygiene at the University of Pennsylvania.
- Artificial Feeding of Infants, and Description of Instruments and Apparatus of the Author, with Directions for Their Use—By A. Clendenen, M. D., Fort Lee, N. J.
- Inland Quarantine—By R. A. Kinloch, M. D., Charleston, S. C., Professor of Surgery, Medical College of the State of South Carolina. Reprint from the North Carolina Medical Journal.

- Relative Frequency of Color-Blindness in Males and Females—By B. Joy Jeffries, A. M., M. D., Harvard, Fellow Massachusetts Medical Society, etc. Reprint from the Boston Medical and Surgical Journal.
- The Duties of the Medical Profession Concerning Prostitution and its Allied Vices—Being the Oration Before the Maine Medical Association, at its Annual Meeting, June, 1878. F-Bredy.
- Transactions of the Colorado Medical Society. Eighth Annual Convention held at Denver, Col., June 11 and 12, 1878.
- Reports and Resolutions Relating to Sanitary Legislation. Presented to the American Public Health Association at its Meeting in Richmond, Va., November 19, 1878.
- The Scepticism Prevalent Regarding the Efficacy of Aural Therapeutics. To What Extent is it Justifiable? By Samuel Theobold, M. D., Baltimore, Md. Reprint from Maryland Medical Journal.
- A Case of Ovariotomy (Successful). By Edward Borck, M. D., Member of the Medical and Chirurgical Faculty of Maryland and Baltimore Association, etc. Reprint from the St. Louis Medical and Surgical Journal.
- Case of Poison by Oil of Chenopodium. By Thomas R. Brown, M.D., Professor of Clinical and Operative Surgery, and Diseases of the Genito-Urinary Organs, College of Physicians and Surgeons, Baltimore, Md. Reprint from the Maryland Medical Journal.
- Optic Neuritis, with Notes of Three Cases. By C. J. Lundy, M. D. Reprint from Detroit Lancet.
- The Medico-Literary Journal. A Monthly Devoted to the Diffusion of Medical Knowledge Among Women. Mrs. M. P. Sawtelle, M. D., San Francisco.
- On Artificial Disinfection as a Means of Preventing the Spread of Infectious Diseases. By Rev. J. H. Timins, M. A., P. G. S., Vicar of West Malling, Kent, Student of St. Thomas' Hospital London.
- Transactions of the Detroit Medical and Library Association, 1879.
- Twenty-Sixth Annual Announcement Medical Department, University of Vermont, for the Year 1879.
- Further Testimony in Favor of the Use of Large Probes in the Treatment of the Nasal Duct. By Samuel Theobold, M. D., Surgeon to the Baltimore Charity Eye and Ear Dispensary, Opthalmic and Aural Surgeon to St. Vincent's Hospital, Baltimore, Md. Reprint from the Archives of Opthalmology and Otology, Vol. VI.
- The Treatment of the Genito-Urinary Organs. The Use of Electricity, Damiana, etc., etc. By John J. Caldwell, M. D., Baltimore, Md. Reprint from the St. Louis Medical and Surgical Journal, June, 1878.

## METEOROLOGICAL REPORT FOR JANUARY, 1879.

	1			1		
Day of Month.	Maximum,	Maximum. Minimum.		Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	62 52 53 41 37 36 52 62 66 43 67 57 48 56 65 70 73 70 57 58 64 68 69 72 70 73 78 74 71	49 44 34 28 25 20 24 50 34 27 38 41 39 42 47 53 55 48 36 43 46 52 57 67 67 67 59	13 8 19 13 12 16 28 12 32 16 29 16 9 14 18 17 18 22 19 22 21 22 16 16 28 17 18 17 18 17 18 19 21 21 21 21 21 21 21 21 21 21	30.075 30.225 30.363 30.320 30.384 30.537 30.255 29.883 30.269 30.327 30.048 30.228 30.228 30.205 30.062 30.110 30.056 30.129 30.486 30.379 30.271 30.134 30.198 30.259 30.256 30.163 30.074 30.224 30.292 30.224	91.3 71.7 43.3 66.3 78.7 74.0 85.0 89.0 66.0 72.7 72.3 72.0 86.3 82.7 89.0 80.7 81.7 47.3 48.0 64.7 74.9 79.3 70.3 75.7 86.3 82.0 83.3 89.3	.00 .00 .00 .00 .00 .00 .00 .25 .25 .00 .00 .00 .00 .00 .00 .00 .00 .00 .0
31	76	62	14	30.002	74.7	.00
Mean	61.54	44.48	17.06	30.214	75.6	Total: 2.04

MORTALITY IN NEW ORLEANS FROM JANUARY 26, 1879 TO FEBRUARY 23, 1879, INCLUSIVE.

Week Ending.		Yellow Fever.	Malarial Fever.	Consump-	Small- pox.	Pneu- monia.	Total Mortality.
February " " "	2 9 16 23.		1 0 1 2	11 17 18 21	0 0 0	11 9 10 4	92 87 91 98
Totals		0	4	67	0	34	368

#### ERRATA.

We have to correct several errors of printing, which occurred in the publication of Dr. Dell Orto's paper in the last number of our Journal.

At page 645 instead of "morbus cardicus," read cardiacus.

At page 646 instead of "Hell to the imposters," read to the importers.

At page 646 instead of "We are willing to advocate a national quarantine," read a rational quarantine.

At page 646 instead of "The present condition of certain localities will always be full of disease," read foci of disease.

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

# APRIL, 1879.

#### ORIGINAL COMMUNICATIONS.

# Yellow Fever Epidemic of 1878 in New Orleans.

By JOSEPH JONES, D. D.,

Professor of Chemistry and Clinical Medicine, Medical Department, University of Louisiana, Visiting Physician of Charity Hospital, New Orleans.

(Extracts from Clinical Lecture, Delivered in the Amphitheatre of the Charity Hospital, January 15th, 1879. Reported for the New Orleans Medical and Surgical Journal.)

#### LECTURE II.

INVESTIGATION INSTITUTED TO DETERMINE THE RELATIONS OF THE ORGANIC AND LIVING CONSTITUENTS OF THE ATMOSPHERE TO THE MICROSCOPICAL AND CHEMICAL CHANGES OF THE BLOOD IN YELLOW FEVER.

#### GENTLEMEN:

At the close of the preceding lecture I endeavored to give you a brief statement of the results of the investigation which I instituted, upon the air of some of the most infected localities of New Orleans during the epidemic yellow fever of 1878; and we desire upon the present occasion to present the results of investigations which I instituted, to determine if possible the relations of the organic and living constituents of the atmosphere to the microscopical and chemical changes of the blood in yellow fever. If the same microscopical organisms, spores or



germs in the atmosphere existed also in the blood of those suffering with yellow fever, it appeared reasonable to regard such organisms, microzymes, microccoci, spores or germs, as active agents in the production of the physical and chemical changes of the blood and of the pathological lesions characteristics of yellow fever. In such inquiries we must appeal to facts, and not to mere hypothesis or idle speculation as to the powers of the microscope and chemical analysis to elucidate the phenomena of this disease.

Before detailing the actual results of the investigation, let me ask the question: Has negative testimony any more value in the discussion of scientific subjects than in courts of justice? A witness swears that he saw the prisoner commit murder; the witness offers to produce one hundred good witness who will swear that they did not see him commit murder; but would such negative testimony justify the judge in discharging the prisoner? The value of the testimony of the hundred witnesses. would depend entirely upon whether they had had the same opportunity for observation and at the same time, as the first witness. Although in the testimony to an historical fact, the fact, from its very nature, has passed beyond recall, and the testimony of only those who witnessed the facts can be received; in scientific discussions, on the other hand, it is often possible to again bring the essential conditions of the facts under review, and the credibility of the testimony will rest mainly upon the competence of the witness.

When, therefore, the assertion is made that it is impossible to demonstrate the specific poison of yellow fever, either chemically or microscopically, the student of medicine will estimate the value of such a proposition by the following conditions:

1st. The credibility of the witnesses making such assertion.

2d. The acquirements of those who assume to be judges of the limits of chemical and microscopical investigations.

3d. Whether or not the self-appointed judges have themselves searched by chemical methods and by the microscope for the yellow fever poison.

If the individual or individuals making such assertions are unknown as chemists and microscopists, and altogether as original investigators, and if they present no facts to show that they have made microscopical observations, and chemical experiments and analysis to determine the true nature of the yellow fever poison, the medical profession is justified in rejecting such assertions as baseless and valueless. We would rather set no bounds to the limits of human research, and the possibilities of human discovery in the future, and endeavor to emulate at once the perseverance, fortitude and nobility of the son of the poor wool-comber of Genoa, who gave to Castile and Leon a new world.

CASES ILLUSTRATING THE CHARACTER OF THE DISEASE IN THE HOUSES, IN WHICH THE ORGANIC CONSTITUENTS OF THE AIR WERE CONDENSED, BY THEIR PASSAGE THROUGH ICE COLD WATER.

1. Group of Cases occurring in the brick house on 2d floor, 363 Magazine street, within the area of the infected District, including the cases on Constance and adjacent streets.

This house stands at the corner of Thalia and Magazine street on what is called the swamp side of the street; it is substantially built of brick and is detached from surrounding houses. Both streets are paved.

Case 30. On the 1st of August, 1878, I was called in consultation to see Miss H., at 363 Magazine street, at about 9 oclock, P. M. The patient had been attacked about the 29th of July, and the consultation was held on the 4th day of the fever. The patient presented the following symptoms: insensible comatose; pupils contracted; hot, dry skin; temperature of axilla 106° F.; urinary suppression; slight jaundice. Prognosis unfavorable. The patient died in about six hours after the consultation.

Case 31. Miss C. H. Age  $8\frac{1}{2}$  years; native of New Orleans, but had generally passed the warm weather in Tennessee. Fair complexion, dark hair, most intelligent countenance, and bright intellect; nervous temperament. Mother, native of Tennessee; father, native of Louisiana. Miss C. H. was attacked with violent pain in the head and high fever at 4 o'clock, A. M., August 8th. I saw this patient at 7, A. M. Mr. H. informed me that he had administered to his child 3 grains of calomel, 2 grains of quinine and 3 grains of the bicarbonate of soda, immediately after the onset of the fever, followed by a hot mustard foot bath; and in two hours afterwards he administered five fluid drachms of castor oil. The castor oil was rejected together with undigested and sour portions of the

dinner of the preceding day. Mr. H. then gave four drachms of castor oil which were retained.

7,o'clock, A. M. Pulse 142 per minute, the beats running into each other and giving a gaseous impulse to the fingers. Temperature of axilla 103.2° F. When waking from sleep delirious, but when fully aroused answers coherently, but is very restless. Face flushed, conjunctiva of eyes congested. The surface of the skin gives a sharp, pungent sensation to the hands. Ordered hot foot baths, sedative water to the head, and orangeleaf teams a drink.

4, o'clock, P. M. Pulse 150, temperature of axilla 103.9°. Patient very restless, skin hot and dry and gives a burning pungent sensation to the touch. Tongue very red at tip and edges and furred with heavy white fur in centre. Face flushed, eyes congested and motions of the balls nervous and restless; altogether there appears to be great agitation of the cerebrospinal system. The temperature both without and within the house is elevated and most oppressive; the thermometer in the sick room is 92° F. In order to promote perspiration and reduce the body heat, ordered friction of the surface with fresh and pure sweet oil.

9½ o'clock, P. M. Pulse 138, temperature of axilla 101.5°. The patient appears to be more comfortable and rests more quietly. The hot foot bath followed by the frictions of sweet oil, together with the orange-leaf tea, have induced some per-

spiration. Bowels have been moved twice.

12 o'clock, at night. At this time the fever increased in intensity, the thermometer indicating 103° in the axilla, and the patient became restless and delirious. Frictions of sweet oil and the hot mustard foot baths appeared to produce good results and she became more quiet and moisture appeared upon the skin. The night was intensely warm and the thermometer never fell below 92° F. Up to the present time the head has been kept constantly cool by cloths dipped in cool water.

August 9th, 9, A. M. Pulse 134; temperature of axilla 103°; pulse rapid, running and gaseous; the heat of the skin is very

intense and purgent to the touch.

4 o'clock, P. M. Pulse 118; temperature of axilla 103.9°. In order to promote diuresis and diaphoresis, the spirit of nitric ether (spiritus ætheris nitrici), was added to the orange leaf tea.

The frictions of the surface with olive oil as well as the warm foot baths appear to have been beneficial. From the onset of the attack, however, there has been a nervous agitation and restlessness, often accompanied with delirium which forebodes evil and indicates a case of the utmost gravity. The application of cut cups to the temple and back of the head were carefully considered; but this remedy was not employed, on the ground that the patient, even in health, was exceedingly delicate and pale, with but limited amount of red blood.

9 o'clock, P. M. Pulse 132; temperature of axilla 104.2°; res-

piration 30 per minute; patient restless and delirious. Incessant motion of hands and head. Talks incoherently, but when aroused will utter one or two coherent sentences. The cold application to the head, ice water, sedative water and bay rum, have been most faithfully continued by her devoted parents and nurse, but no perceptible effects have resulted therefrom. Urine light, straw color; perfectly limpid; without deposits; abundantly, and with only a trace of albumen. Bowels have moved occasionally. In order to reduce the frequency of the action of the heart, as well as to calm the nervous excitement, the following was ordered: One drop of the tincture of aconite root (tinctura aconita radicis, U.S. P.) and 10 grains of the bromide of potasium, every 2 to 4 hours, the effects being carefully watched. Thus far, there has been no retching or vomiting, and in fact the patient has persistently complained of a feeling of hunger, and in order to relieve this milk and lime water were administered in small quantities at regular intervals, and produced no gastric disturbance.

August 10th, 9 o'clock, A. M. Patient very restless and delirious. Lips, scarlet; face, flushed; skin feels "burning hot" to the touch. Temperature, 103.5°; pulse, 134. The tincture of aconite and bromide of potassium have been administered at regular intervals, but without any marked effects, either in reducing the pulse and temperature, or in mitigating the nervous agitation and restlessness. The urine has been carefully examined each day, on the 8th, 9th and 10th instants and has uniformly presented a clear light yellow color, resembling in all respects this excretion in health. Under the microscope it has contained a few granular casts, with bacteria, cells of torula and penicillium and very delicate thread-like bodies, most probably a form of bacteria, also minute particles,

possessing a rotatory or vibratory motion.

4 o'clock, P. M. Defirium continues. Pulse 150; temperature of axilla 104°. Urine more scant, but still light colored. There

is a slight increase of albumen.

9 o'clock, P. M. Pulse so rapid that it can scarcely be counted. The temperature has increased, but the patient is so restless that it is difficult to determine its exact height; but it appears to be about 106° in the axilla.

Applied a blister 2 by 4 inches, at the back of the head and neck, covering base of brain and medulla oblongata. The blister drew well, and there appeared to be some relief of the delirium; in fact, for a short time before death, which occurred at 8, A. M., on the morning of the 11th of August, the patient was entirely rational.

Commentary.—No local cause of disease could be discerned in the brick dwelling, nor on the paved streets immediately surrounding. The father of Miss C. H., an intelligent and experienced druggist, informed me that from the first appearance

of the fever in his neighborhood, about the 18th of July, he had administered quinine as a prophylactic to both of his daughters, and had frequently disinfected his house and premises with sulphurous acid gas, carbolic acid and per manganate of potassium. During the period of illness of the preceding cases, the range of the thermometer was high, as shown by the records of the Signal Service, the place of observation being several degrees cooler than the house of Mr. H., 363 Magazine street. The maximum temperatures were, according to the record of the Signal Service: July 23d, 920: 24th, 93°: 25th, 92°: 26th, 91°: 27th, 92°: 28th, 91°: 29th, 93°: 30th, 88°: 31st, 90°. August 1st, 98°: 2d, 91°: 3d, 89°: 4th, 83°; 5th, 88°; 6th, 89°; 7th, 91°; 8th, 92°; 9th, 92°; 10th, 89°: 11th, 90°. The thermometer in the sick room often indicated a degree of heat exceeding 90°, and never fell below this point.

In the case under consideration, the bowels were well opened in the commencement of the disease; the treatment pursued was conservative, and the nursing of the most careful and unexceptionable character. The cerebral symptoms were prominent from the commencement and increased in severity to the moment of death, and appeared to be uninfluenced by treatment, whilst the skin and kidneys responded to treatment. This child and her sister were noted for their bright intellects. and it appears that in both cases the force of the disease was expended chiefly upon the cerebro-spinal system.

Case 39, 363 Magazine street. J. O., age 15, native of Indian Territory; resident of New Orleans 101 years; clerk in Mr. H.'s drugstore. Attacked with pain in head and back, followed by fever.

August 10th, 6, A. M. Mr. H. administered at once 10 grains of calomel and 10 grains of the bicarbonate of soda. I saw this patient at 8 o'clock, A. M., few hours after the onset of the fever. Pulse 134; temperature of axilla 1040; 12 M., Pulse 134; temperature 104. Castor oil was administered 3 hours after the calomel and carbonate of soda, and produced free purgation.

August 11th, 9, A. M. Pulse 100: temperature 103.90: 4, P.

M. Pulse 102; temperature 102.2°.

August 12th, 9, A. M. Pulse 95; temperature 101.5°; 12, M. Pulse 104; temperature 102.2°.

August 13th, 10, A. M. Pulse 86; temperature 100.49; 7, P. M. Pulse 84; temperature 100.3°.

August 14th, 10, A. M. Pulse 78; temperature 99.6°; 8, P. M. Pulse 98; temperature 99.6.

August 15th, 8, A. M. Pulse 86; temperature 99.2°; 6, P.

M. Pulse 76; temperature 99.5°.

August 16th, 9, A. M. Pulse 72; temperature 99°; P. M.,

skin cool; patient entirely free from fever.

August 17, A. M. Pulse 70; temperature 99°. This patient is now sitting up. Continued to improve and recovered fully. This case was treated by free purgation in the beginning, followed by 10 grains of the sulpho carbolate of sodium dissolved in orange leaf tea, every 4 hours. During the first four days of the disease, little or no nourishment was administered. It will be noted that there was no secondary rise of fever in this case.

Case 42. George F., age 30, native of West Virginia; has been in New Orleans six months. Clerk in Mr. H.'s drug store, 363 Magazine street. On the 12th of August, as I passed through the store to visit his companion, J. O., suffering with yellow fever in the second story of the same house. I observed that the face of Mr. George F. was flushed, and that his eyes had a glassy appearance and his countenance a care-worn and anxious aspect. Upon examination I found that his skin was hot and dry and his pulse accelerated. I persuaded him to leave his duties in the drug store and retire to bed.

5 o'clock, P. M. Pulse 124; temperature of axilla 103.5°. I had ordered in the morning 10 grains of calomel and 10 grains of quinine, to be administered at once and to be followed by a fluid ounce of castor oil in three hours. These purgatives have

caused a free motion of the bowels.

August 13th. The patient has passed a restless night. 9, A. M., face greatly congested; conjunctiva of eyes red; tongue furred in centre, very red at edges and tip. Patient anxious and very restless. Pulse 92, temperature of axilla 101.5°. We observe a decided fall both in the pulse and in the temperature, which is entirely at variance with the theory that in the early stages of yellow fever the pulse descends while the temperature rises.

7 o'clock, P. M., pulse 88, temperature 102.8°.

August 14th, 10 o'clock, A. M., pulse 88, temperature 103.9°; 9, A. M., pulse 92, temperature 104.6°. This secondary rise of temperature forebodes no good, and must be caused by secondary lesions, or rather by the aggravation of the primary lesions of the heart, stomach, liver and kidneys.

August 15th, 10, A. M., pulse 88, temperature of axilla 103.3°. From the 13th inst. up to the present time, the patient has been taking 10 grains of the sulpho-carbolate of sodium

every 4 hours.

6 o'clock, P. M., pulse 92, temperature 103.5°.

August 16th. 9, A. M., pulse 90, temperature 102.2°. 5, P.M., pulse 90, temperature 103.4°.

August 17th, 10, A. M., pulse 90, temperature 103.8°; 5 o'clock, P. M., pulse 88, temperature 101.8°.

During this day I suffered with fever and severe pain in the head and back, and in the evening was compelled by the severity of the fever (temperature of axilla 104.5°, pulse 120) to surrender temporarily the care of my sick. On the 13th, however, four days before my attack of fever, I had passed, with the assistance of Mr. H. the air of the various rooms of his house (363 Magazine street), through crushed ice and ice-cold water, and examined the product thus obtained both microscopically and chemically, and injected the water into living animals.

I was informed by Mr. H. that this patient sank into a state of utter dejection, followed by delirium, in which condition he died August 21st.

In this case the bowels were freely and fully evacuated during the first six hours, and the patient was faithfully and efficiently cared for by Mr. H., his employer, and by the professional nurse.

Case 43. Miss E. R., 363 Magazine street; fifth case in the house of Mr. H., druggist; age 20, native of Pascagoula, Miss. Attacked August 12th, 7, P. M., with pain in back of head and extremities and loins, and chill, followed by high fever.

Ten grains of calomel and ten grains of quinine were admin-

istered and followed by castor oil in three hours.

9 o'clock, P. M., pulse 130, temperature of axilla 104.3°.

August 13th, 10, A. M. Pulse 104, temperature 104°. Incessant nausea. Did not retain the oil. Delirium. Appears tobe unconscious of her situation; passes urine and excrements in bed. Ordered the following: R. Quiniæ sulph. grains xxxtinet. opii m xv, acidi acetici m vi, aque destillate f. 3 viij. Mix: one-third by enema every 3 hours. Hot mustard foot bath. Cold affusions to head and body.

7 o'clock, P. M. Pulse 130, temperature of axilla 105°. Ordered repetition of quinine enema, as before, until 40 grains

are administered.

August 14th, 10, A. M. Pulse 102, temperature of axilla 105.5°. Eighty grains of the sulphate of quinia have been administered by enema and have been retained, without any perceptible effect; in fact the temperature, so far from being reduced, has risen from 104° F. to 105.5°.

9 o'clock, P. M. Pulse 96, temperature 105°.

August 15th, 10, A. M. Pulse 84, temperature 103°5. Urinary suppression. Have been able to obtain no urine for analysis. Black vomit. Patient has thrown up black vomit. Skin presents a jaundiced hue. Great congestion of capillaries. Eyes red and congested. Tongue red at tip and edges, heavily coated with fur in centre. I expressed the belief that

this case would certainly terminate fatally.

6 o'clock, P. M. Continues to throw up black vomit. Urinary suppression also continues. Surface of a golden yellow color. Can retain nothing upon stomach. Case hopeless. Pulse 90, temperature 103:8°.

16th, 10 A. M. Patient wholly unconscious. Uraemic convulsions occur at short intervals. Throws up black vomit, and also passes dark, foul, altered blood by the bowels. Surface of a deep golden color. Extremities and dependent portions of the body mottled from capillary congestion. Features present a swollen and stolid appearance. A disgusting and foul odor surrounds the unfortunate patient. Died at 4 o'clock, P. M. After death the body presented a deep golden color, the dependent portions being purplish and mottled.

Commentary.—This case rushed forward to its conclusion apparently uninfluenced by treatment. Quinine by the rectum and also by the surface in the form of liniment, as well as the sulpho carbolate of sodium and cold affusions, did not abate the severity of the symptoms or the height of the fever.

## EXPERIMENTS UPON THE AIR OF THE SICK ROOMS IN THE HOUSE NO. 363 MAGAZINE STREET.

As we have just shown by the records of the cases treated, of five cases four terminated fatally. During the entire period of the continuance of these cases, the temperature, both within and witout the house, was high. Thus, continuing the record from the date of the death of Miss C. H., we have the following figures as representing the temperature as rendered by the Signal Service at the Customhouse: August 11th, 90° F.; 12th, 89°; 13th, 90°; 14th, 89°; 15th, 91°; 16th, 84°; 17th, 88°; 18th, 90; 19th, 91°; 20th, 92°; 21st, 93°; 22d, 94°; 23d, 91°; 24th, 91°.

The average maximum temperature for July was 90° F.; the average minimum temperature 77.5°; the average daily range 12.4°; mean height of the barometer 29.958; the mean relative humidity 83.8

The total rain fall 5-66 inches. For the month of August, the mean maximum temperature was 89.14; the mean minimum 76.8°; the mean daily range 13°; mean height of barometer 29,954 inches; relative humidity 72.3; totally rain fall 4-77.

The mortality during this period in the entire city was also heavy, being as follows: For the week ending August 4th. Deaths from yellow fever 49, total deaths from all causes 176. Week ending August 11th. Yellow fever 74, all causes 206. Week ending August 18th. Yellow fever 185, all causes 315. Week ending August 25th. Yellow fever 308, all causes 493. Total for the period stated: Yellow fever 616, all causes 1190.

Impartial judges will admit that this was a suitable location, in the heart of the infected district, and a suitable season, to condense and examine microscopically and chemically the yellow fever atmosphere. The air of the rooms occupied respectively by Mr. H. as a sleeping apartment, and in which no case of fever or other illness had occurred, and by Miss R., Mr. D. and Mr. O., was passed through ice and ice cold water on the 13th, 14th and 15th of August. About 600,000 cubic centimetres were passed through the ice and ice cold water in each room. It is worthy of note that two deaths had occurred in the room occupied by Miss R. The air was subjected to this treatment both at night and during the day.

A marked difference was observed between the water of the melted ice from the large front room of Mr. H.'s house and the three small side rooms of the wing of the brick house facing Thalia street. The water from the front room was perfectly transparent, whilst that from the yellow fever rooms presented a turbid, milky appearance, and let fall a considerable deposit.

When the water from the yellow fever rooms was subjected to microscopical examination, the following extraneous matters were observed:

1st. Numerous minute particles, many of which had a vibratory motion. Under a magnifying power of 420 diameters, with Beck's best 1-5th of an inch (a superior glass of excellent defining power) these appeared as minute oval specks. Under 1-18th of an inch (1050 diameters) these particles were resolved into distinct oval cells with a central nucleus, resembling in all respects the spores of delicate fungi.

2d. Bacteria and delicate thread-like filaments, similar to those observed in the urine and in the blood of yellow fever.

- 3d. Revolving minute animalculæ and spores, with active rotatory movements.
- 4. Minute particles which could not be resolved into distinct structures by the highest powers. When magnified 1050 diameters, these resembled mere specks of matter, many of which have an active vibratory motion.

5th. Epithelial cells.

6th. Particles of dust evidently inorganic in their nature.

7th. Oil globules. As the patients were well rubbed with olive oil the oil globules may have in part been derived from this source; but as oil increases in the blood and in certain organs, as the liver, heart and kidneys, during the progress of yellow fever, I was disposed to refer a portion of the oil globules to the diseased bodies. It is possible that oil might be exhaled from the pulmonary surface in small quantities during the progress of the disease.

8th. Hairs and particles of cotton and sheep wool from the clothing and bedding of the patients with numerous adherent spores.

When the liquid from the yellow fever rooms was evaporathed, a distinct deposit was left in the watch glasses and upon glass slides, which, in addition to the various organic substances specified, contained numerous stellate and accicular and prysmatic crystals and granular particles. The crystals appear to be those of the chloride and carbonate of ammonia. Reaction of water slightly alkaline.

The presence of organic matter was still farther shown by the usual chemical tests, as charring by heat, blackening by sulphuric acid, and decoloration of the solution of the per-manganate of potassa.

When glass slides were moistened with ice cold water and held so as to receive the breath of yellow fever patients in respiration, the microscopical examination yielded results similar to those recorded above.

After the most minute examination of the individual specimens from the different rooms in Mr. Harrison's house, not only immediately after the experiments, but also during various periods, embracing nearly six months, I discovered no forms which could be referred to such microscopical plants as

the Chlorococcum vulgare, Protococcus viridis, Palmella cruenta, Coccochloris brebinonii, and other confervoideæ, or unicellular algae capable of producing chlorophyl. Certain granular cells observed in malarial fever (in the blood), resemble most nearly the resting spore of Bulbochæte intermedia, and the granular cells of Palmella cruenta; but no such cells were observed in the yellow fever atmosphere in the brick house 363 Magazine street. In fact it would be difficult to conceive how the algae of any description could thrive and multiply in this well paved and dry situation. The forms were referable to those most nearly connected with putrefaction and fermentation, as the Bacteria and Torulæ, Penicillius and Micrococci and Cryptococceæ. Kutzing includes his genera Cryptococcus, Ulvina and Sphærotilus, amongst the families of algæ, but they appear to be the conidia (reproduction cells, stylospores and spermatia) of the mycelia of mildew fungi. The absence of any of the known forms of the algæ in the air of yellow fever collected in this locality, which is as free from any source of swamp malaria as the best drained and paved portions of the city of New Orleans, is important in that this class of plants is thus excluded from the consideration of the questions relating to the origin and causation of yellow fever.

EXPERIMENTS UPON LIVING ANIMALS WITH THE WATER, THROUGH WHICH THE YELLOW FEVER ATMOSPHERE HAD BEEN PASSED, IN THE BRICK RESIDENCE, 363 MAGAZINE STREET.

The liquid obtained by passing the air of the rooms in which the yellow fever patients lay through ice and ice-cold water, was conveyed immediately to my laboratory, and injected subcutaneously into eleven rabbits and into two pigeons. In several of the rabbits the water was injected directly into the blood, through the large vessels of the ears. In the pigeons, the liquid was injected into the pectoral muscle. No rabbit was destroyed by these procedures, although abscesses formed in several places in different animals, in the neighborhood of the points of injection, and in such instances the animals manifested febrile phenomena. A pregnant female rabbit gave birth to four living rabbits several days after the experiment.

The mother appeared to have no milk, and although we attempted to rear the young ones by artificial means, they perished; the mother, however, survived and is still living and has since given birth to thirteen rabits, seven at one time and six at another.

One of the pigeons was killed by a cock in my yard, about ten days after the injection of the "yellow fever water" into the left pectoral muscle. Upon dissection, I tound the pectoral muscles on the left side to be atrophied and in a state of acute fatty degeneration. Upon microscopal examination I found that some of the fibres of the blanket covering the yellow fever patient had been injected along with the water into the pectoral muscle.

Two views may be taken as to the effects produced upon this bird.

1st. The fibres of the blanket acted as a local irritant, and induced degeneration and atrophy of the muscular tissue.

2d. The granular matter and spores of the yellow fever atmosphere induced chemical changes in the muscular structures, which were converted into oil.

The latter supposition is at least worthy of consideration, as the yellow fever poison induces rapid fatty degeneration of the heart, liver and kidneys. It is also worthy of note, in this connection, that the granular matter possessing active motion, as well as the sporules, of the yellow fever atmosphere, are found in greatest abundance adhering to the fibres of cotton and wool condensed in the water.

The other pigeon was killed at the end of two weeks, and found to be healthy.

II. SECOND GROUP OF CASES, 46 SOUTH VILLERE STREET, 44 SOUTH VILLERE STREET AND 47 ROBINSON STREET.

Case 27. Thomas S., native of New Orleans, age 20. Was attacked July 31st, in the morning, with pain in the head and back, followed by fever. I saw this patient at 4 o'clock, P. M.; pulse 104, temperature of axilla 102°; ordered one fluid ounce of castor oil, hot mustard foot bath, and orange leaf tea.

August 1st, 4 o'clock, P. M. Temperature of axilla 99°, pulse 74; tongue red at tip and edges, coated in centre, skin bathed with perspiration, gums red and spongy, continued orange leaf tea with barley water for nourishment, olive oil

frictions.

August 2d, 10 o'clock, A. M. Temperature 99°, pulse 64; great muscular and nervous prostratiou. August 3d, 10 o'clock, A. M., temperature 99°, pulse 72. August 4th, temperature 99°, pulse 70. Improving, ordered chicken tea. Capillary congestion of face and conjunctiva of eyes well marked. August 5th, pulse 60. August 6th, pulse 58, slow and regular, great prostration. August 7th, 10 o'clock, A. M., pulse 50. August 8th, pulse 56, patient setting up. Recovered.

The preceding case is a type of the cases as they frequently occurred in adult natives of New Orleans, in whom the fever was attended without any secondary lesions, or elevations of temperature. In many of these cases a purgative in the first stage, together with orange leaf tea, olive oil frictions and warm foot baths, absolute rest in the recumbent position and absolute diet, were the only remedies employed.

Case 22. S. J. P., No. 44 South Villere street. Age 36, native of Mississippi, resident of New Orleans 11 years. Attacked with pain in head and back and chill, followed by fever. August 3d, 1878, 1 o'clock, P. M. Saw the patient first August 4th, 1 o'clock, P. M.; had taken three doses of castor oil, pulse rapid, skin hot and dry, high fever. August 5th, patient restless, anxious and prostrated, tongue red at tip and edges, and heavily coated in the centre; pulse 68, temperature of axilla 101°. August 6th, pulse 80, skin hot and moist. August 7th, 11 o'clock, A, M., pulse 76, skin warm and moist, fever. August 8th, 11 o'clock, A M., pulse 74, temperature 100°. August 9th, pulse 80, temperature of axilla 102°. August 10th, pulse 72, temperature 103.2°. August 11th, pulse 58, temperature 100.8°. August 12th, pulse 60, temperature 100.5°. August 13th, pulse 50, temperature 99,5°. August 14th, pulse 70, patient convalescent and setting up. Recovered.

During his illness there was great muscular and nervous prostration, and at times the pulse was intermittent. This patient was treated by quinine injections per rectum (ten grains every 4 hours, on the 7th and 8th insts.), hot mustard foot baths, orange leaf tea, light diet (barley water and chicken and beef tea), absolute rest in bed, sweet oil frictions. Bowels were kept open by enema. In this case, as in many others, there was a great accumulation of gas in the intestines which often embarrassed respiration, and produced great oppression and necessitated the use of stimulating enema, in which tincture of assafectida and oil of turpentine were

employed.

Case 19. G. F., male, 47 Robertson street, directly in the rear of 46 Villere street. This house adjoined the one in which the first cases upon the street died, to which we have alluded in the first lecture on yellow fever (January 8th, 1879). At-

tacked with yellow fever August 1st, 9, o'clock, A. M.; 10½, o'clock, A. M., pulse 146, temperature of axilla 101°. The bowels were freely moved by calomel and castor oil. August 2d. Pulse 120, temperature of axilla 100°. Great capillary congestion. Conjunctiva congested. Tongue red at tip and edges and coated in the centre. Gums red. August 3d. Pulse 120, temperature of axilla 101°. Have ordered 3 grains of sulphate of quinia to be repeated 3 times this day, and also upon the succeeding day. August 4th. Pulse 116, temperature 100°. Has some appetite and asks for something to eat. August 5th. Pulse 108, temperature 100°. August 7th. Pulse 94. August 8th. Pulse 108 in sitting posture. Convalescent. Recovered.

Case 20. J. J. T., male, age 4 years, 47 Robertson street, native of New Orleans. Attacked with fever August 11th, 2 o'clock, P. M. At this time rapid pulse with considerable febrile heat. Administered two grains each of calomel and quinine, to be followed with castor oil in 4 hours. The fever rose rapidly and the child appeared to be threatened with convulsions. The father applied to the resident surgeon of the Charity Hospital at 8 o'clock the next morning, August 12th. Dr. Pratt states that at this time the temperature of the child was 104.5°. He applied the ice bath to the surface. The body was rubbed with ice and ice was applied to the head. These measures reduced the temperature, and at 10.30 o'clock, A. M., two hours after the application of the ice bath, I found the little patient with a pulse of 160, temperature of axilla 101.5°, comatose, congestion of capillaries of extremities, which felt cold to the touch. Urinary suppression. August 13th. Unconscious; moves the head from side to side. Has passed no urine; bladder empty. Pulse 138, temperature of axilla 102.5°. Blister to base of cranium and over region of medulla oblongata. Mustard to extremities. Died at 6 o'clock, P. M.

Case 21. M. F., female, 47 Robertson street, age 2 years. August 11th, 2 o'clock, P. M. Fever, ordered castor oil as a purgative. The fever rose rapidly at about 5 o'clock, P. M. At 8 o'clock, P. M., the little patient was seized with convulsions. The nearest physician, the resident surgeon at the Charity Hospital, was summoned. He found the temperature of the child to be 107.5°, and placed the child in a bath of ice cold water and kept the little patient there about one hour, and at the end of this time the thermometer under the tongue indicated only 98° F. Consciousness appeared to be temporarily restored by the ice bath, but the child died at 2 o'clock, A. M., about 5 hours after the application of the ice cold water. The next morning I found the corpse of a yellow color, with deep purplish congestion of the capillaries of the dependent portions of the body.

The two preceding cases clearly illustrate the fact that the febrile heat is not the disease in yellow fever, and that its reduction even to the standard of health, does not necessarily secure a favorable result.

Case 26. J. N., male, 46 South Villere street. Age 6, native of New Orleans. Attacked August 4th, 10 o'clock, P. M., with chill, pain in head, back and extremities and fever. Administered 5 grains of calonnel and 5 grains of sulphate of quinia, followed by castor oil.

August 5th, 10 o'clock, A. M., pulse 120. August 6th, 11 o'clock, A. M., pulse 112. Aug 1st 7th, 11 o'clock, A. M., pulse 110. August 8th, 11 o'clock, A. M., pulse 108. August 9th, 11 o'clock, A. M., pulse 108. August 10th, pulse 92. August 11th, pulse 90. August 12th, pulse 84. August 13th, pulse 90. August 14th, pulse 82. August 15th, 82. Recovered.

Case 28. C. S, female, 46 South Villere street. Age 8, native of New Orleans. Attacked with chill, pain in head and back and extremities, followed by marked tebrile heat, August 5th, 2 o'clock, P. M. August 6th, 11 o'clock, A. M., pulse 164, temperature of axilla 102°. Administered 5 grains of calomel and 5 grains of sulphate of quinia, and followed with castor oil in three hours. Threw up the powder, but retained the castor oil.

August 7th, A. M., pulse 148, temperature 100°. August 8th, pulse 112, temperature 101°. August 9th, A. M., pulse 120, temperature 103°. August 10th, 1 o'clock, P. M., pulse 104, temperature 103.2°. August 11th, pulse 102, temperature 102.5°. During the past three days (commencing Aug. 8th), have administered 2 grains of quinia every 3 hours, until 6 grains were taken each day. This treatment was repeated on the 9th and 10th of August, and on the 10th, administered one-half drop of the tincture of aconite root and 5 grains of the bromide of potassium every 4 hours. Frictions of olive oil have been used up to the present time, also sweet spirits of nitre and orange leaf tea have been administered at regular intervals. The quinia has had no effect upon the temperature.

August 10th, pulse 104. temperature 103.2°. August 11th, pulse 102, temperature 102.5°. August 12th, pulse 100, temperature 101.8°. August 13th, pulse 102, temperature 102.2°. August 14th, pulse 102, temperature 102°. August 15th, pulse 92, temperature 101°. After the latter date, the improvement was marked and progressive, and the patient recovered entirely. This was an obstinate case, the fever continuing eleven days without intermission.

Case 29. J. S., male, age 16, 46 South Villere street. Attacked August 10th, 6 o'clock, A. M., pulse 140, temperature of axilla 103.5°. Administered 10 grains of calomel and 10

grains of quinia, and followed with castor oil in 4 hours. The fever continued up to the close of the 11th. August 12th, pulse 74, temperature 99.5°. August 13th, pulse 70, temperature 99.5°. August 14th, pulse 54, temperature 99.5°. August 15th, pulse 52, temperature 98.2°. From the date of the last observation, the patient continued to improve. Recovered.

Case 30. M. A. S., female, age 11 years, 46 South Villere street, native of New Orleans. Attacked with fever, August 12th, P. M. Twelve grains of calomel and 12 grains of the carbonate of soda were administered, which produced but

slight effects upon the bowels.

August 13th, 12 o'clock, M., pulse 156, temperature 103°, skin hot and dry, tongue very red at tip and edges, but heavily coated with fur in the centre. August 14th, P. M., pulse 108, temperature 101.2°. August 15th, P. M., pulse 102, temperature 101°. Quinia, 2 grains every 2 hours until 8 grains were taken during the day. Recovered.

# EXPERIMENTS UPON THE AIR OF THE SICK ROOMS AND IN THE YARD OF 46 SOUTH VILLERE STREET.

The air of the rooms in which the patients suffered with yellow fever, also that obtained from the neighborhood of a foul stinking gutter in the yard of 46 S. Villere street, which also acted as a surface drain to the surrounding houses, was subjected to the same treatment, as in the residence 363 Magazine street, 400,000 cubic centimetres of air, in each of these sick rooms, containing four cases, were passed through crushed ice and ice cold water, during the day, and also at midnight; 600,000 cubic centimetres of air were at midnight treated in the same manner, the bellows being held over the foul drain in the yard. Total amount of air thus examined at the locality 1,800,000 cubic centimetres.

The air from the sick rooms presented the same elements as were observed in the preceding experiments on Magazine street, with the addition of several colored cells which evidently belonged to the plants, resembling the chlorococcum vulgare, protococcus viridis and palmella cruenta. The true characters of these elements were fully shown by examinations of the water, at various points extending over five months, during which time the cells increased considerably in size. The most numerous elements were as in the case of the water obtained

from the sick rooms at 363 Magazine street, minute spores, minute threadlike bodies, bacteria, and minute granules which could not be resolved by the highest powers into any distinct animal or vegetable structure, epithelial cells, oil globules, several parasites from the skin, and fibres of wool and cotton, and particles of dust were also observed under the microscope. The crystalline bodies also appeared when the liquid was slowly coagulated.

The water through which the air over the foul gutter was passed contained chiefly cells of the plants resembling the algae, as the testing spores of Bulbochæte intermedia chlorococcum vulgare protoccus viridis and palmella cruenta. Bacteria and minute spores and minute particles were also abundant.

When the waters obtained in the manner stated from this locality were injected subcutaneously into living animals, the results were similar to those previously detailed.

The Natural History of the Yellow Fever and Cognate Germs and Most Practical Method of their Destruction.

By S. M. GLADNEY, M. D., Weimar, Texas.

I propose to offer you some conclusions I have arrived at, from a careful consideration of the multiplied observations of others, and of the laws of nature, applying to the germs which cause these diseases.

I will premise by stating that I am not a convert to the Darwinian theory, and am a firm believer in the organic germ theory of yellow fever, in common with all those diseases classed as "Zymotic." I believe that these vital germs were created in the beginning, during the general creation of all organic life, before man himself, and have continued by their natural generation, since we have no more reason to suppose that these invisible vital disease germs are created "de novo" than we have to suppose that new species of the mighty elephant or towering giraffe are now created. How they

obtained sustenance and continued their species until man multiplied upon the face of the earth, we can never know, but doubtless the great Creator provided adequate means for their sustenance and reproduction, until the violation of God's law by man called them forth by the force of numbers and rapidity of increase to work his punishment.

I will commence by giving my views of the natural history and habits of the yellow fever germs and their effects when introduced into the human system. I will therefore take it for granted at present that the primary and essential cause of yellow fever is a "living animalcular germ," governed by the same natural laws as other organic beings according to their species.

The yellow fever germs are natives of the Atlantic tropics, where perpetual snmmer and an abundance of food keep up with them a constant succession of life, growth and reproduction.

Their existence within the United States is only by importation and during the warm season, as they are very delicate and can survive only a moderate degree of cold. During an epidemic on the approach of winter the then living germs first become torpid, then generally perish. But it sometimes happens that some of these torpid germs are packed up in this condition in goods, or find protection elsewhere from the cold in houses artificially warmed throughout the winter, and when the warmth of summer revivifies them, they issue forth with the rare fied air from their winter quarters; and if they find sufficient sustenance, again begin an active life, growth and reproduction.

It is not known how long disease germs may preserve their vitality in a temperature neither so low as to destroy them, nor so high as to revivify them; perhaps for years. This explains why the disease sometimes appears in the United States without any possible chance of fresh importation.

These germs are so exceedingly minute, that the highest power of the microscope fails to render them visible, but in dense masses they may be seen, both living and dead, as will be shown.

Like vultures are of the decomposing animal remains of the country, so these germs are the scavengers, in certain latitudes, of city air rendered foul by human effluvia, combined with that of decaying animal and vegetable matter. On this diet alone they can live; if introduced into an atmosphere entirely void of this, they soon perish; the disease they cause does not spread, and hence is not infectious in a pure atmosphere. But if introduced into foul city air in their appropriate season and latitude, they live, grow and germinate, in proportion to the foulness, warmth and moisture of the air, but never so rapidly out of the human body as in it.

When introduced into such on atmosphere, sooner or later, they find their way, by inhalation, into the system of some human being, in whose blood, saturated with the same effluvia, they find a rich and concentrated diet, of congenial temperature, further enriched by the effete matter of the body, forming a diet peculiarly adapted to their nature.

Here they live, grow and generate with astonishing rapidity; during this stage they quietly feed upon the vitiated elements of the blood, and produce no disturbance of the system; and this is the incubative period. But sooner or later, they either become overcrowded, or have consumed their food; then, as with swarming bees, comes a wild struggle to escape, for they must either escape from the system alive or perish in it. The commotion caused by this struggle, and the resistance of the system, produce that fever which is the first stage of yellow fever, attended with a variety of severe nervous symptoms, local irritations, and congestions.

Although they escape by the lungs and other outlets, the skin affords the largest surface for the exit of these germs; but they can only escape through the skin with the perspiration. If this is kept ap continuously, local irritation subdued, and local congestion prevented, the patient survives, and the fever subsides in from one to three days.

Every yellow fever patient thus discharges from his body myriads of living germs; each additional case multiplies them; they soon fill the houses of the patients, and issue forth to seek sustenance in the foul air without, which is soon thoroughly infected. The rule adopted by some health boards that the disease is epidemic when there are more deaths from it than all other diseases, is arbitrary and irrational.

The disease is epidemic when the air is so infected that persons passing the streets are liable to contract it.

The entire subsidence of the fever indicates that the germs have all either escaped alive, or are dead in the system. Should all the germs escape alive, the patient, by paying proper attention to the weakened state of the system and any in. Jury the vital organs may have sustained, will pass into speedy convalescence. But if, as generally happens, great numbers of the germs have perished in the system, the second stage of the disease comes on. This is characterized by a state of calm quietude, simulating convalescence; this state is induced, partly, by the depression of the system following the fever, and, partly, by the fact that the dead germs, in this condition, are but little more irritating than the living germs in the incubative stage.

This stage may last from six to twenty-four hours; then comes the third stage, which is caused by the decomposition of the dead germs; and in proportion to the number of these, is the severity and danger of this stage.

All physicians know what a virulent poison decomposing animal matter, introduced into the blood, is to the system; and, in this stage, all the symptoms of this poisoning are developed. These are so diversified and well known that it is needless to detail them. It is not within the scope of this treatise to give all the varying symptoms of the disease, but they may all be accounted for by the less or greater abundance of germs, living or dead, in the body; their combination with other diseased germs; other diseases which may be affecting the system; or condition of the vital forces.

It may be well, hovever, to explain the yellowness of the skin. This is caused by the black fluid, composed of the decomposing germs and blood, mixed with the bile which the torpid liver is unable to throw out of the system, struggling slowly through the feeble circulation of the capillaries and often exuding from the skin.

During this stage, nature often makes an effort to relieve the system of this noxious matter whenever abundant; by the power of the circulation it is forced through the relaxed coats of the stomach and bowels, and often ejected from them. This composes the black vomit, now black and fluid from thorough decomposition of the dead germs and, perhaps, a portion of the decomposed blood. This matter has ever been a mystery to the profession. It has been swallowed with impunity, and is innoxious out of the blood as it contains no living germs. There is no harm in the ejection of black vomit of itself; it is only a salutary effort of nature to relieve the system of this poisonous matter; but it is of so fatal a prognosis by proving the excessive quantity of this poison in the blood, and the weakened state of the system.

If the energies of the system, assisted by a judicious stimulating and supporting treatment, are sufficient to throw off this effete and poisonous matter and restore the normal condition of the blood, the patient survives, but otherwise he necessarily succumbs.

Here it becomes necessary to give some account of another species of disease producing germs, from their often affecting the system at the same time with yellow fever germs with disastrous effect. I allude to the miasmatic germs, the essential cause of all miasmatic disease.

This species of germ is indigenous to both the torrid and temperate zones, extending almost to the artic zone; and, like many visible species of organic life, both vegetable and animal, common to both zones, it exhibits the greatest vigor nearest the equator. Thus, within the tropics, miasmatic diseases prevail with a malignancy and fatality to the unacclimated, equal to the yellow fever itself; and diminish in intensity as they recede from the equator, and within the tropics, by complicating yellow fever, give rise to forms of fever which dety classification.

As the yellow fever germs are the scavengers of decomposing vegetable and animal matter mixed with human effluvia, so the miasmatic germs are the scavengers of decomposing vegetable matter, on which alone they can subsist. In their natural habits, they differ greatly from the yellow fever germs;

they withstand a greater degree of cold, merely becoming torpid in cold weather. They do not generate in the human system, hence are not infectious. They do not adhere to clothing or other objects, and hence are not portable by them; and differ from the infectious germs by infecting the same system repeatedly; but they resemble the yellow fever germs by exhibiting the greatest vigor when heat and moisture combine to produce the greatest amount of decomposition; therefore, t ey are most prevalent at the same seasons of the year, and weather most favorable to one is so to the other. This is the cause of most of the epidemics in interior towns.

During the extensve prevalence of yellow fever, miasmatic diseases are also more prevalent and severe than at other times, and being indigenous, often prevail long before yellow fever germs are introduced; but let yellow fever germs be introduced, finding abundant sustenance in the foul air, they grow to the system of some person, whose blood is not only saturated with foul city air, but infected with miasmatic germs, an explosion of fever soon follows, the miasmatic germs predominating give type to the disease; the attending physician sees nothing but some anomalous symptoms and an unusual stubbornness in the case.

Under judicious treatment the patient may recover, but he usually dies, and the case is called malignant bilious fever. No precautions of isolation and disinfection have been adopted, but yet yellow fever germs have been generated by myriads in the body of the patient.

Some other cases occur, the miasmatic germs still giving type to the disease; but as each additional case serves as a centre of infection, and adds enormously to the number of yellow fever germs, they soon begin to predominate and give more of their own type to the disease. Some physicians treating cases of this kind, begin to hint at the yellow fever; but soon cases occur in which the yellow fever germs, from their greater abundance and more rapid action, develop symptoms which cannot be mistaken. Yellow fever has superceded the miasmatic, and is thus announced, and a mild panic follows. But, alas! the whole atmosphere of the town is infected, and the disease is already epidemic.

Under present and past methods of treatment, it ceases only with the advent of cold weather, or from the want of human victims,

In cities where miasmatic diseases do not prevail, these difficulties of diagnosis are unknown, and city physicians are astonished at the mistakes of country town physicians, which they charitably ascribe to their inexperience in yellow fever!

Thus it behooves every physician practising in a miasmatic locality, during the prevalence of yellow fever in places whence by any means its germs may be introduced, to exercise the utmost vigilance, and if a doubtful case occur, give the benefit of the doubt to the infectious disease, and by proper isolation and disinfection, prevent, if possible, the spread of the infection. A mistake on this side can only cause an unnecessary panic and perhaps a little personal ridicule; whilst one on the other side may cause the most dire results, unless prevented by means I shall hereafter indicate.

It seems presumption in one totally inexperienced in the treatment of the disease to offer anything on the subject, but a few rational deductions may be drawn from the above views of its cause and progress.

As a prophylactic, I would propose the use of sulphur, as it is cheap and comparatively harmless to the human system. It is well known that sulphur, in a minutely divided state, is a deadly poison to many lower forms of visible organic life; it is, therefore, a fair subject of experiment to ascertain if it is not so to this delicate germ.

Let, therefore, a person exposed to the disease put daily, say a teaspoonful of precipitated sulphur in the bottom of each sock or stocking, whence it will be carried through the system by absorption, and continue it till the system is saturated, which will be known by its smell in the perspiration; after this is attained, enough only need be used to keep up the saturation. In this way the sulphur will pervade the entire system in that form best adapted to act on the germs and to meet them wherever they may assail the system, and if it does not cause their speedy exit, will most probably greatly retard their growth and development.

The indications for the treatment of the first stage are well fulfilled by the plan of Mr. Cleveland, as given recently in the Galveston News, and said to be remarkably successful, and may be summed up as follows:

As early in the disease as possible evacuate the bowels thoroughly by copious enemas of tepid water in which a portion of mild soap is dissolved; then induce copious perspiration by putting the feet and legs, as high as the knees, if convenient, in a hot mustard bath, covering the vessel, with the body and limbs to the neck, with a blanket, and continue this, adding more hot water if necessary, until a copious perspiration is produced, then put the patient in bed without exposure, and cover so as to continue the perspiration increasingly, applying bottles of hot water or hot irons, in wet cloths, to the legs, if necessary, to equalize circulation and promote perspiration. Prevent congestion of the brain by the constant application of a cloth wrung well out of ice water; prevent congestion of the stomach and kidneys, at the same time keeping the blood freely diluted by giving ice water, ice lemonade, or any other cold drink acceptable to the stomach, as much as the patient desires. Continue this treatment until the fever subsides; then if, happily, you have prevented congestion of any of the vital organs and eliminate all of the germs from the system, your patient, with care, will be safe.

During the second stage, open the bowels as before to carry off any morbid secretions; sponge the patient's body and limbs, without exposure, with warm water to which a little carbolic acid is added; change all his clothing, bed and bed-clothes, and give such nutriment and stimulants as may be acceptable to the stomach. The indication is to prepare the system as well as possible to sustain the great struggle which is to come with the decomposition of the dead germs.

The indications in the third stage are to equalize the circulation, prevent local congestion, and sustain the energies of the system, by stimulants and tonics, and thus assist it to throw off the effete and poisonous matter. The treatment of blood-psisoning by decomposing animal matter, has ever been difficult and unsatisfactory. There is and can be no specific;

transfusion with healthy blood would seem to offer the best chance. In all stages, the utmost quietude of mind and body should be maintained.

When an epidemic is fully developed, the whole atmosphere is saturated with vital germs; they penetrate wherever the air does, and adhere to all kinds of dry goods, and with singular pertenacity to woolen goods. In calm, clear weather, floating in the air, they rise with it, as it becomes rarified to the upper regions, and bask in the genial sunshine over the fated city, where congregated in dense masses, they reflect the light, causing a light, hazy, indefinitely defined cloud, and then only can they be seen alive. At night they descend with the condensing air to the earth, to feed upon the foul air and find new human victims.

In cloudy, damp weather they remain near the surface of the earth, and are beaten to the ground by the rain to rise again with the evaporating water.

These views are deduced from the well known fact that it is much more dangerous to breathe the air of an infected place during the night than in day time, and in damp, showery weather, than in clear weather, and that the disease spreads much faster in such weather than in clear weather.

Here it may be well to give a few reflections on the general natural history of the germs that cause all the infectious zymotic diseases, and although they are so minute that the highest power of the microscope fails to render them visible, yet, like magnetism and galvanism, much that will be useful may be learned by a careful study of their visible effects. Like some species of visible animals, some species of germs have peculiar habitats where only they flourish and remain in full and constant vigor; and though they may be conveyed by human transportation to very diverse climates and latitudes, yet they soon perish, and the diseases they cause disappear, until again transported in a similar manner. Others, again, are cosmopolitan, and accompany man wherever he may go.

Each species has its own natural habits and instincts, some of which it may possess in common with others, while some are peculiar to Itself. (Some species, for instance, epidemic

cholera, have, like locust and other visible insects, a migratory instinct and power, and at irregular periods make extensive migrations far distant from their native habitats.) Some species are so nearly allied that hybrid diseases may be produced.

It is not the mere existence of the germs in the system that produces disease, but the necessity of their escape from it when all of their proper aliment is consumed, and the irritation of the system caused by their struggles to escape. Some can escape by one tissue of the body alone, others by several. The lungs serve as both inlet and outlet for most of them; hence, the expiration of subjects of any of these is particularly infectious.

There is a peculiarity in most of these diseases of inestimable benefit to mankind—that is, they do not, as a rule, infect the same system more than once. Were it not for this natural law, it is impossible to estimate the disastrous consequences that would ensue from some of them, particularly yellow fever, small-pox, and plague. I ascribe this peculiarity to a natural instinct of the germs. Some odor or other impression is left in the system which has once been used, especially as a breeding place, that causes it to be instinctively repulsive to all of the same species, and which is perceptible to them alone.

We have many examples of this instinct in the visible animal species. Birds will not lay in a nest which has once been used, although but little labor would be required to repair it. Ants will not inhabit a domicile which has been used by their species and deserted. Wasps will not use a nest that has been used for breeding purposes, no matter how perfect it may be; and many other examples might be adduced to show that this is not an uncommon instinct with visible animals, though so utterly insignificant compared with the same instinct in the disease germs.

A person who has had yellow fever, in breathing infected air, inhales just as many germs as one who has not; but in the former, the germs instinctively discover that their species have inhabited and bred in the system before, and make a speedy exit, not stopping either to feed or breed; probably not passing beyond the lungs, but passing out again with the ex-

pired air. The comparative immunity of the negro race from yellow fever, is chiefly owing to the freer perspiration natural to them, by means of which the germs escape without disturbance of the system. I think that on investigation it would be found that white persons who habitually perspire most freely are ceteris paribus, least liable to the disease.

There is another disease which has not hitherto been considered zymotic, and does not belong to the same class as those above referred to; yet, as it has some properties in common with them, and I consider it as zymotic, I will briefly give my views of it. I refer to hydrophobia. The germs which produce this disease are in some respects allied to trichinæ; like them they may either become encysted or may in some other way remain torpid in the system for an indefinite period; but unless happily they perish in this condition, or are removed from the system, sooner or later they begin an active life, growth and reproduction.

Like all other disease germs, when they have used what their nature requires in the system, a struggle to escape commences, and hydrophobia is developed. They are too large to escape from the lungs or skin, or float in the air, hence they are not infectious from the exhalations of these tissues. Nature has decreed that they shall only escape with the secretions of the mouth, fauces, and perhaps bronchia; and by these only are they generally conveyed to other animals, though it may be that the fresh blood of a subject of the disease might communicate them.

The irritation caused by them falls almost exclusively on the nervous system.

As a prophylactic against hydrophobia, a strong solution of carbolic acid should be poured into any wound made by a rabid animal, and made to penetrate all parts the teeth had reached as soon as possible after the injury.

We also find by observation or experiment, that certain agents are destructive of all or some forms of visible organic life, and hence know with reasonable certainty that these agents will destroy any or similar invisible forms of life. Among these agents it is only necessary to mention heat, either moist or dry; the vapor of carbolic acid, and the fumes of sulphur, as they are

all that are necessary to destroy living disease germs without the human system. Each has its appropriate place.

Thus we may understand, that however much different species may vary in habitats, habits and instincts, yet, like visible beings, they are all subject to the same general laws of nature to which all organic life is subject. May we not hope that a beneficent providence has provided, somewhere in nature, an antidote for each or all of them, like cinchona is to the miasmatic germ, which time, by accident or scientific research, will discover?

It is the fashion now to rely too much on the microscope and chemical analysis for proofs in medical investigations. These are yet in far too imperfect a condition to rely on to the exclusion of other available means at our command. To give a striking example of their imperfections, the air of a place may be so loaded with the perfumes of a pole cat as to be unbearable; but neither with the most powerful microscope or most delicate chemical tests, could we detect anything unusual in the air; and but for our sense of smell it would remain unknown to us.

But there are many things among the works of nature daily around us which, in themselves, we have no sense capable of appreciating. Some perhaps which produce no effect our senses cannot perceive—these must forever remain unknown to us. But there are others which, though imperceptible to any of our senses, yet produce effects that are perceptible to us, and by a careful study of these effects, and a comparison of them with effects produced by things in themselves perceptible to us, we may arrive at a knowledge of them of great practical value in medical research.

It is by this process of reasoning that we arrive at the conclusion that certain diseases are produced by living beings which, from their exceeding minuteness, we call germs, and that some of them are distinctly animalcular, while the line of demarcation between animal and vegetable life is so indefinite that it is impossible to determine to which class others belong, and it is not of importance to do so, as they are all governed by the same general laws of nature; for nature makes no distinction between the visible and invisible—it is only the imper-

fections of our own senses that cause us to make artificial distinctions.

Having given my views of the nature of yellow fever germs, together with some observations on other disease-producing germs, which I hope may be of practical benefit, if in no other way, by inducing further investigation on so important a subject, I will give my deductions from these as to the most practical and efficient method of preventing epidemics of the disease caused by yellow fever germs, and others of similar character.

Of the first importance is cleanliness, for no fact is better established than that these epidemics are most prevalent and fatal in the filthiest and most crowded portions of towns and cities which they invade, thus proving that the germs which produce them obtain their chief sustenance from foul air, more particularly from human effluvia. In places subject to epidemics, no expense should be considered too great which would insure, at all times, but particularly in warm weather, the constant and entire removal of all excrements, together with all water that has been used for washing purposes, and decaying animal and vegetable matter. They should be removed to a sufficient distance and mixed with earth, which could then be used as a valuable manure; and thus, instead of being an active cause of disease and death to man, would aid in sustaining life. Were this efficiently done, any disease germs that might be introduced would be speedily starved out, and any disease produced by them would be comparatively mild and noninfectious.

But as in the past, so it will be in the future. Man loves the almighty dollar in hand so well that he will take the chances of losing health, life and money, rather than pay the expense necessary to insure cleanliness, and the air of towns and cities will still remain foul and ready for the sustenance and propagation of disease germs.

Thus it becomes necessary to ascertain how we can most cheaply and efficiently destroy these disease germs, when introduced into an impure atmosphere.

As to the chemical disinfectants, their costliness, the fact that most of them, in a state of vapor, are injurious to the human system, and the impossibility of applying them to extensive spaces, forbid us to expect a great deal from them. But nature furnishes us with a disinfectant cheap, safe, and capable of being applied almost anywhere the germs can penetrate, except in the human system itself. This is Heat.

It would seem hardly necessary to argue the question of the efficiency of heat as a disinfectant, but man has so long neglected the use of it, whilst he has been so long searching the domains of chemistry for disinfectants, that it may be well to give a few common sense proofs of its power to destroy these germs. Unless the whole germ theory is false, nothing can be more certain than that they are subject to the same general laws of nature to which all organic life is subject. And from their minuteness, it is reasonable to suppose that they are far more delicate than the grosser forms of life that are visible to us.

Now, would any sane man purchase any kind of seeds, roots or plants, expecting them to grow, after being thoroughly boiled? Would he expect any visible animal to survive after its body had been thoroughly penetrated by a heat of two hundred and twelve degrees, which is that of boiling water? Can it be possible that these delicate germs could maintain life for an instant after being exposed to such a temperature? I do not believe that they could sustain life at a hundred and eighty degrees, but I know that they could not at that of two hundred and twelve. The fumes of sulphur and vapor of carbolic acid are also valuable agents as disinfectants, and in certain places may be preferably used, especially where, from the nature of the articles to be disinfected, it might be unsafe or injurious to use the requisite degree of heat.

The following described machine would prove a cheap and effectual "Disinfector:"

Construct an iron furnace under a suitably sized boiler, entering into the boiler from the back, and have a coiled tubular air reservoir of sufficient capacity to obtain any degree of heat necessary. This should be boxed in with sheet-iron with the furnace, with a damper between to regulate the heat. The boiler should have an escape-cock to let off the steam when not needed. The air reservoir should have a cut-off near the boiler,

and near that a tube also with a cut-off, reaching up into the air without the boxing, so that either superheated steam or dry, hot air could be used as desired. On top of the boxing, have a suitable vessel for burning sulphur or vaporizing carbolic acid, connected with the air reservoir, so that the fumes can be thrown into it. The other end of the air reservoir should be much smaller than the body, to give greater ejecting force, and should project out of the boxing. To this should be fitted a jointed leaden pipe of sufficient length to eject the steam, hot air, sulphur or carbolic acid vapors, where wanted. A lead delivery-pipe would be preferable, as it could be bent to throw the hot air or steam, and does not melt under six hundred degrees.

This machine may be made light enought to be moved by hand, or large enough to require two or four horses to draw it, on wheels of course. The moving power would be in front of the furnace, and far enough not to be incommoded by the heat.

With such a machine, any room, house, street or alley could be speedily disinfected at least as high as the hot air or steam could be thrown; and steam or air, heated to five hundred degrees, the fumes of sulphur or carbolic acid vapor, could be used as required. Provided with such a machine, when a case of vellow fever occurs, wait until the first stage is over, then after changing his clothing and cleansing his person as directed in the treatment of the second stage, remove him to another room, or preferably, to another house, leaving behind all the clothing he has used; open all trunks, wardrobes, etc., containing clothing, and scatter the contents so that they may be exposed as freely as possible to the heat; remove all matches, coal oil, etc., liable to take fire easily, then close the room or house, if the patient has been removed from it, as nearly air-tight as possible. Bring the "disinfector" within a convenient distance of the house, and introduce the delivery tube. Heat up the furnace and throw in the hot air or steam, which may be safely raised to 250°, until the whole interior and everything capable of retaining the germs are heated up to 212°, which may be ascertained by introducing a thermometer through a window, making due allowance for the time required for the heat to penetrate clothing, bedding, etc. The house may then be opened, cooled and safely reoccupied, as there can be no living germs within it.

If not convenient to remove the patient to another house, remove to another room as distant as possible, and cut off all communication, and afterwards disinfect the other rooms. Treat each house in which a case occurs in the same manner, until the disease is stopped.

According to my views, the person of a yellow fever patient is not infectious after the first stage, as it does not contain or emit any living germs, but is only infectious from those which adhere to the external surface or clothing. But this is a point which requires careful investigation, and will be difficult to decide.

But should, unfortunately, the disease not have been recognized sufficiently early, or efficient means not have been used in time to prevent the external air from becoming infected, and thus have become epidemic, the same disinfectant may be used successfully if used often and extensively enough.

In cities where steam fire engines are used, a temporary adaptation of them to the purpose would render them very efficient. But whatever machine is used, it would be better to have a number in proportion to the extent of the district to be disinfected. Let the machine be slowly moved over accessible open ground, and steam (preferably on account of its visibility) heated to 500° be projected on the ground, against the walls, under the houses where possible, and up into the air as thoroughly as possible; in fact, wherever it can be forced, as the germs penetrate wherever the air does. The higher the temperature of the steam when projected out, of course the more space it will cover by radiation, sufficiently hot to destroy the germs.

By far the most efficient time to operate would be during the night, in damp, cloudy weather, and after rains, as the germs are then congregated near the earth. The houses should also be disinfected. All this process should be repeated daily until all the germs are burnt out. These terrible enemies, though invisible, should be fought with, if possible, more energy and perseverance than fire or relentless and powerful human enemies attempting to take and destroy a city; and by a careful

study of their nature and habits, may be fought equally and effectually.

By the use of some one of these means the rigors and cost of quarantine may be greatly diminished.

Should the contents of the hold of the vessel be such that the use of a sufficient degree of heat would be dangerous or injurious, sulphur fumes or vapor of carbolic acid might be effectually substituted by forcing them in until they had thoroughly penetrated wherever the air could reach, and suffered to remain until the bilge water is saturated to ten per cent. All germs above deck could be destroyed by the hot steam. and thus the vessel could be thoroughly disinfected in a short time. The crew and passengers could then be left in quarantine, and the vessel sent to her destination and cargo discharged without danger from any infectious disease. bags could be disinfected by either the dry heat, sulphur fumes, or carbolic acid vapor. It is a useless waste to destroy clothing or other goods on account of any infectious disease. Boiling, ironing with a flat-iron, or any other way of exposing them to the same degree of heat, will as effectually destroy all disease germs, as burning them. By the heat disinfectant, hospitals may be kept free of all organic disease germs by disinfecting one room at a time as necessary.

I submit to the medical profession and the public these views of the yellow fever and cognate germs, with what I consider the cheapest and most practical methods of destroying them; hoping they may prove of interest to the profession and benefit to the world.

P. S.—The present mode of using carbolic acid by pouring or sprinkling the solution, is both wasteful and comparatively inefficient, as it evaporates so slowly that the germs instinctively get out of its reach before it is sufficiently concentrated to destroy them, and are thus only driven elsewhere.

It should be vaporized by heat and discharged where wanted as rapidly as possible, so as to suffocate them before they can escape.

# A Poisoned Wound and its Results.

1879]

By J. E. WRIGHT, M. D.

The subjoined brief account of a poisoned wound and its results may be suggestive:

Case-Dr. L. W. G., aged 35, sanguine nervous temperament, muscular, stout and well proportioned in his physique, active, laborious and temperate in his habits, an alumnus of the Medical Department of the University of Louisiana, has been actively and constantly engaged in the practice of his profession during the ten years succeeding his graduation. Whilst treating a case of Swamp Fever (malarial hæmaturia) last fall, he brought to his office a small vial of the bloody urine, for the purpose of examining it with reference to the pathology of that dreadful disease. The vial of urine was placed in his office, and in the hurry and exigencies of daily duties, remained there for several months, unattended to and unnoticed. After the lapse of several months, and when the cold weather of winter had set in, the long neglected vial of urine was remembered, and on a bitterly cold day, whilst attempting to extract the cork stopper, the vial was accidentally broken into fragments, being literally crushed in his hands, inflicting a deep, ragged and irregularly shaped wound on the palmar aspect of the ring finger of the left hand, about one inch above the metacarpophalangeal articulation. Of course, the wound thus inflicted was thoroughly bathed in the putrescent contents of the vial. In the hurry of the moment, the hand was simply washed in a convenient puddle of semi-frozen water, and no further precautions adopted. That night, after retiring, the wounded finger became intensely painful, hot, tense and throbbing. The pain, progressively increasing, became so aggravated in the course of the night that a hot poultice of corn mush was applied, and a full dose of morphine taken. Next morning the entire hand was swollen, the tumefaction extending some distance up the fore-arm. The integuments were deeply suffused with an erysipelatous redness, and the entire hand exquisitely painful. A red line marked out the course of the lymphatic tube, from the wrist to the axillary cavity, the glands of which were tumid, sore and tender. The pain was so atrocious as to require the



constant influence of morphia and hot poultices to the hand. The hottest applications afforded most relief, and the least reduction in their temperature was constantly attended by great augmentation of the pain. Considerable constitutional disturbance, sympathetic fever, complete insomnia and anorexia, were soon established, and the suffering, both general and local, was most excruciating. At about this stage of the case, the writer was summoned by an urgent message, but the ground being covered with twelve inches depth of frozen snow, and several patients in town requiring constant attention, whilst we were writhing under the influence of a severe bronchial catarrh, we were forced to forego the trip-a distance of several miles—and substitute a written prescription. A highly intelligent neighboring physician, who was in constant attendance, promptly adopted our written suggestions, and carried them out to the letter. On the succeeding day, the writer was waited on by several gentlemen, near neighbors of Dr. G., with a most urgent and importunate request to visit the sufferer without delay. This request was backed by a most pathetic written appeal from the sufferer's wife. The aforesaid gentlemen represented that the agony of the patient, in spite of the most powerful anodynes, was almost distracting and unremitting—that the swelling of the hand and arm was enormous—that the entire hand was black and gangrenous, and that the patient was importunate in his entreaties to have the arm amputated immediately. Hastily huddling together the necessary instruments, we set out over the frozen snow, and slowly and laboriously made our way to the bedside of the miserable patient. A thorough investigation revealed—not gangrene, but a livid and terribly swollen state of the parts, from sero-purulent infiltration, the products of a rapid, most violent and destructive inflammation. The wounded finger was swollen, livid and distorted out of all resemblance to a finger. We immediately proceeded to let out the collections of pus, decomposing shreds of cellular tissue, putrid serum, etc., by free and deep incisions in different parts, where tension and fluctuation were most apparent. This procedure was promptly followed by great mitigation of pain, and a state of comparative comfort. The subsequent local treatment was soothing and antiseptic, the

general treatment supporting and tonic. Under this regime, the swelling and pain slowly subsided; the axillary glands ceased to be sore and tender; the arm returned to its normal size; the sloughing of the palmar facia ceased; but fungous granulations studded the dorsal aspect of the hand around the metacarpo-phalangeal articulation of the ring finger, and that finger became gangrenous from the distal extremity down to within a short space of the metacarpal articulation. We therefore amputated the finger through its metacarpal articulation, under spray of carbolized water, and with simple dressings, confined with a light roller bandage, patient was able in a few days to resume his professional duties; his general health being fully re-established, and the wound nearly healed. are disposed to regard the above case, as an example of poisoned wound, similar in every respect, to those dissection wounds with which the profession is so painfully familiar.

# Galveston as a Health Resort.

[Read before the Galveston County Medical Society in December, 1877, and recommended for publication.]

By CHARLES GANAHL, M. D., Centre Point, Kerr County, Texas.

As man in the sum of his organization is the expression of the atmosphere which he breathes, and the soil upon which he dwells, modified by the environments of civilization, governments, etc., so the diseases to which he is subjected, are necessarily alike characterized in his person by these primary basic influences; therefore a knowledge of the conditions of public health remains to be furnished, in part by the study of the relations of meteorology to the variations in the rate of mortality, which is as continually oscillating under the slight breath of the wind, as under the trifling alterations in barometrical pressure.

Until a system of meteorological observations embracing all sections of the earth's surface has been completed, together with the vital statistics bearing upon the same compared, it would be futile to attempt to establish any scientific principle, or law, by which practitioners are to be governed in the selection of a climate for their patients, with the certainty of their being benefited. This more particularly obtains in phthisis pulmonalis, a disease which from the time of Hippocrates was supposed to be most influenced by climate; yet until recently, so crude was our knowledge (in the total absence of such data above mentioned), that within the last decade, consumptives were sent to relaxing and sedative climates, and even to-day, many seek the climate of Florida at the instance of their physicians. A better knowledge of the disease, which also led to the abandonment of a therapeusis based exclusively upon an entirely inflammatory nature, and a disbelief in its curability, had an equal influence with mortuary results, in leading to revolution in this matter, by which consumptives have some chance of recovery, at all events a fair prospect of either arrest or indefinite prolongation of their disease, by a residence in an existing and tonifying climate.

All authors now unite in the belief as to impure air being the principal etiological factor in the production of this disease, as predisposing primarily to scrofula, with which it is in close affinity, and inducing either bronchial catarrhs or pneumonic conditions of a persistant and chequered character of progression, the inflammatory debris accruing from either of which through reabsorbtion, pass into the lymphatics and become manifest as neoplasms, variously designated by the different schools as tubercles, tubercular infiltrations, or as caseous degenerescence. Call them what you may, and however important it undoubtedly is to be acquainted with this pathogeny, here is the starting point of the destructive changes, which brings into requisition the skill of the physician to counteract, either by prophylaxis, or later when fully formed, by hastening or furthering liquefaction and diminution, by aiding the arrest of the destructive secreting process, and if possible to effect the complete cicatrization of the cavity.

As impure air is most potent in the production of these destructive processes, we must look principally to a pure air, aided by the highest nutritive conditions by which this pure air can be made salutarily available, to effect the desired restorative changes. Fortunately, we are at the threshold wonderfully assisted, as the health giving air is the best appetizer we can

possibly use, by imparting power to the digestion, hence strength to the circulation and activity to the secretions, with a necessarily improved hæmatosis and consequent superior nutrition. Now we have but one step to the regressive process so much to be desired, all owing to pure air and proper food.

In what elements therapeutically pure air consist we are necessarily in a great measure yet ignorant; and though many attempts have been made by pathological anatomists to define the different varieties of phthisis and structural inflammations engendering them, by which clinicists might be enabled to designate the form of disease to be benefited by such and such a climate, we have very little data to proceed upon from either side, and are forced simply to the selection of that atmosphere which clinical experience has taught us to be favorable to its arrest, and attempt an analysis of the therapeutical action of those few constituents of the atmosphere with which meteorology has made us acquainted, together with a study of the deleterious extraneous emanations which unfavorably in fluence the disease.

In testing the climate of Galveston (its influence upon phthisis pulmonalis being the subject of our discussion to-night) by the crucible of mortuary reports, it would appear to be most favorable, inasmuch as statistics taken from the city clerk's office show a mean annual mortality from this disease of only 1.5 per 1000 of population during the last five years.

This shows an increase of 10 per cent. for the two winter months.

In New Orleans, in 1873, there were more than four deaths to 1000 of the population and in San Diego, Cal., 1.33 per 1000. The total number of deaths during these five years in Galveston was 3467; therefore 15 per cent. of its total mortality was from phthisis. It is notorious that cities yield by far a greater number of victims to this disease than the country localities, the mortality of the first progressing in direct ratio with their

crowded condition. Tables of such calculations do not simply instruct the vital statistician, and I have made some from the data of the United States census for 1870. Deaths from consumption to 1000 of population: Massachusetts, 1.60; California, 1.51; Connecticut, 1.11; Kentucky, 0.86; Indiana, 0.74; Colorado, 0.62, New Mexico, 0.59; Arkansas, 0.40; Florida, 0.38; Alabama, 0.35; Georgia, 0.32; Texas, 0.29; Arizona, 0.22.

A complete system of such tables, with a study of local emanations, aside from climatic influences by which the mortality is augmented or diminished, would be supremely interesting, instructive and useful, were it to embrace all the habitable portions of the earth, and would be the means of accomplishing one of the great ends of vital statistics.

To return to Galveston, it seems that the influence of its climate upon consumption is highly beneficial, as its ratio of mortality is among the lowest and but a trifle elevated above that of San Diego, Cal., which city is known to be inferior to none other in salubrity. I believe that the advantages which consumptives derive from this climate, and the almost immunity which the native population enjoys from this disease, reside principally in the sea air which is characterized by purity. This, together with the iodine and ozone which it contains, renders it tonifying, alterative and aseptic, all of which qualities are necessary, it must be conceded, to the cure of phthisis. Those portions of the lungs which, owing to their anatomical conditions are less mobile, which partake less of the respiratory movement, namely the apices, are the first affected as an almost universal rule, therefore we may infer, that to this cause is attributable in a great measure the closure of the alveolar passages, and consequent clogging of the action of the lobules by epithelial debris, etc., producing first a fibrous condition subsequently degenerating into septic material. We are forced to believe that an exciting climate would be required here with some ozone to induce deeper inspirations and prevent infection, and by the agency of the iodine to create an alterative action upon the bronchial surfaces.

The nearly total absence of malaria, which, as a depressing influence upon the system, is a prolific source of phthisis, must be mentioned as a most important feature, as affecting favor-

ably the salubrity of the climate of Galveston and as acting especially unfavorably to the development of this disease. The very small quantity which is produced in a few very circumscribed localities, and which could easily be prevented, is rendered harmless by the pure ocean breeze, and possibly completely antagonized by the great antiseptic and purifier, ozone. Galveston is perforce much more free from malarial fevers than any other city of the South.

The soil of Galveston consisting of sand purely, permits not only by its porosity the rapid subsidence of the rain fall, but besides owing to its quality of capillary attraction, permits equally quick evaporation, therefore there is less relative humidity than there otherwise would be. With a mean annual temperature of 70° and a comparatively high relative humidity, we would have heat combined with moisture, which would lead one to think the climate of Galveston an important one in summer, and so it would be were it not for the alternations of the sea and land breezes, which is nearly constant.

The slow nocturnal radiation consequent upon both a high temperature and relative humidity, necessitating a high dew point, is productive of hot nights in summer, on the subsidence of the sea breeze, and consequently unfavorable to sound, refreshing sleep. This is the only unfavorable feature in the climate, and would seem to be only productive of harm in cases of secreting cavities, and profuse catarrhal discharges, in fact, in all those destructive changes characteristic of the common or usual course of phthisis pulmonalis.

With regard to my personal experience, I have met with but one case originating in the city in 6 years, a case of phthisis florida initiated by pneumonia, with a most rapid course. I treated many cases at the hospital, all from the North and West and invariably with notable improvement. These were, though, all in the early stages, and had been under bad hygienic influences. Every form of the analeptic treatment was brought into requisition without stint. Those advanced and with progressive, destructive processes, I dispatched to West Texas, as a more favorable climate in such cases.

To make a resumé. It will be immediately seen that this climate possesses great salubrity and vast advantages to

health seekers, and is restorative in the early and dry forms of pulmonary phthisis and where there exists simply predisposition, though I would not recommend it for the purpose of building up a shattered constitution, or with a view to induce restorative changes in the disorganized structures of the lungs. This last condition of things is aided by a life in the open air, as much as possible by night as well as day, and which can only be tolerated in a dry climate, slow relative humidity, great diathermacy of the atmosphere and low dew point and moderate temperature, all of which necessitates a certain altitude, far short of mountain heights, which are necessarily favorable to the production of hæmoptysis.

# Abortive Treatment of Bubo.

By C. O. WELLER, M. D., Columbus, Texas.

At the meeting of the Texas State Medical Association at San Antonio, last April, Dr. Taylor, U. S. A., gave an account of the manner in which he treated buboes, when seen prior to the suppurative stage, which was so remarkable in its successful results as to make a decided impression on me.

His plan was this: to inject with a hypodermic syringe, into the inflamed gland, carbolic acid of the strength of from eight to twelve grains to the fluid-ounce of solvent. He had treated at that time, if I recollect correctly, some forty or more cases, some specific and others simple, with the uniform result of immediately stopping the inflammatory process, and establishing resolution. He claimed that after the operation, pain was soon relieved and never returned, and that he seldom bad to make more than one injection. I determined to test this treatment the first opportunity that I should have. Soon a negro drayman who had a suppurating bubo in the left groin, that I had lanced sometime previously, came to me with a very large and painful swelling in the right groin.

I examined it carefully, and found that the suppurative stage

had not begun, and injected with my hypodermic syringe, the point of which I carried some distance into the substance of the gland, a solution of carbolic acid, made by dissolving ten minims of the crystalized acid-previously rendered liquid by heat—in two drachms of glycerine, to which was added six drachms of water. The pain from the puncture was a little severe, but soon subsided, and in a day or two ceased altogether. Resolution was soon accomplished. A few weeks ago a white man came to me with a large bubo in the right groin. I injected about 25 M of the above solution of carbolic acid into it. This was about 7 o'clock, P. M. The pain was considerable, and continued so the greater part of that night, but ceased the next day never to return. This patient made a speedy recovery. The result of treatment in my two cases, taken in connection with Dr. Taylor's forty cases, so convinces me of the value of carbolic acid in arresting the inflammatory process in the lymphatic glandular system, that I shall certainly continue to use it until something better is discovered.

# Is Alumina a Desirable or Healthful Constituent of our Daily Food?

By R. N. G., New Orleans.

The above question has been elicited by an article which appeared in the Scientific American, in which the writer, Dr. Henry A. Mott, Jr., gives analyses of several baking and yeast powders. These analyses would tend to prove that many of the most popular of these powders contain a large quantity of alum and moreover the analyst states that nearly 50 per cent. of those offered for sale are contaminated with this substance. According to his showing, the following named powders contain alum in proportions varying from 20 to 30 per cent:

Patapsco20.03	per	cent.
Andrew's22.53	66	66
Dooley's26.45	66	66
Oharm30.06	66	66



The manufacturer or vendor of the first named powder, who it would appear, holds a patent for the use of desiccated ammonia alum in baking powders, published a reply to Dr. Mott's article, in which he contends that alum powders, or at least, the Patapsco, is not injurious to health, and seeks to prove that the ammonia alum he employs renders his powder superior to those composed of pure cream of tartar, etc., and further, that, ammonia alum is preferable to that prepared with potash. which he insinuates to be the alum of commerce. It is a well known fact that the cheaper rate at which ammonia alum can be manufactured, has caused it to almost entirely supersede that made with potash. His reasoning is in a measure fallacious; since the only difference in the results of the decomposition of ammonia alum and potash alum when combined with bicarbonate of sodium and used in bread or biscuit making is. that in the former some of the ammonia is eliminated by the heat to which the dough is exposed while baking, whilst in the latter the whole of the potash remains in the form of potassium sulphate. It is not however with this trifling difference that we have to deal, but with the more dangerous residual product alumina, which is always formed and remains as a part of the bread or biscuit prepared from such powders, whether composed of potash or ammonia alum, and it is desired to show in what way this residual alumina may be detrimental to health.

When ammonia alum baking powder is mixed with the flour and water used in the manufacture of bread or biscuit, the alum and alkaline carbonate undergo mutual decomposition the sulphuric acid of the alum combines with the sodium carbonate, forming sodium sulphate or Glauber's salt; carbonic acid and some of the ammonia are liberated, which serve to lighten the bread, and hydrated alumnia is precipitated, this remaining as a constituent of the bread as well as the Glauber's salt. As to the ammoniacal sulphate, part of it is probably left behind, since the heat attained by the interior of the bread whilst baking, does not, according to Chevallier (Dictionnaire des Substances Alimentaires) exceed 100° C. (212° F.), which heat is not sufficient to effect the entire decomposition of this salt.

The following equation gives the probable changes which occur in the manufacture of bread or biscuit (without sugar), from ammonia alum baking powder:

Ammonia Alum. Sodium Bicarbonate. Sodium Sulphate. Alumina Hyd. Al $_2$  3 SO $_4$  (NH $_4$ )  $_2$ SO $_4$  + Na HCO $_3$  = Na $_2$  SO $_4$  + Al $_2$  6HO +

Carbonic Acld, Ammonia.

 $CO_2 + NH_3 + Aq$ . some  $(NH_4)$   $SO_4$  being also undecomposed.

It is a well known fact, that hydrated alumina is soluble even in the weakest acids (according to De Saussure and Blondeau in water containing carbonic acid in solution), nor does it lose its solubility until it has been exposed for some time to a red heat, and has been made to part with the whole of its water. It is in this easily soluble state that it is presented in the bread prepared with such powders, together with the Glaubers' salt, etc. Against the latter there can be no great objection, nor against the sulphate of ammonia, but is it the same with the alumina? Does it not combine with the acids of the stomach, or those contained by or formed from the different food substances of which we make use, forming salts having the peculiar astringency of all salts of aluminium, and are not such salts calculated to thicken or harden the delicate tissues of those parts of the body with which they come in contact? It may be contended that the quantity ingested, even when constant use of such baking powder is made, is so small that no bad effects are likely to follow; but, in cases of persons whose digestive powers are none of the best, is it not possible that even a minute quantity of any astringent would render those powers weaker, or perhaps bring on acute gastritis? The Encyclopædia of Materia Medica, speaking of alumina, says: "It destroys the appetite, produces sour eructations, heartburn, pain in the abdominal ring, the rectum is rendered inactive constipation or loose bloody stools are produced."

There is no doubt but that alumina is the poisonous or dangerous principle of alum, and that the accompanying ammonia or potash salt exerts little other action than that of increasing its deleterious effect. And, moreover, when hydrated alumina is

placed in conjunction with the gastric juices of the stomach, soluble salts are formed, almost, if not quite as dangerous, as the alum in its natural state. In certain conditions of the system, such as hypochondriasis, pyrosis, gastralgia, gout, hysteria, diabetes, etc., where the secretions are abnormally acid, such salts would be readily formed and would doubtless do much injury by congesting the already weakened pores of the stomach, etc., and might possibly induce dangerous or fatal complications of the disease.

It may be possible, that, many who are habitual sufferers from dyspepsia, etc., and who can obtain no relief from their physician, make use of these alum baking powders, and to that, is to be attributed their aggravated condition.

Some of the manufacturers of alum baking powders claim that no alum exists in bread prepared from such powders. There is, however, objection to be taken to their assertions, on several grounds: In the first place, they are not often chemists, and in preparing their compounds are not likely to be governed by, or to make use of, the correct equivalent proportions of alum and alkaline carbonate which would be necessary to insure the precipitation of all the alumina, so as to warrant them, on technical grounds only, in saying that the bread contained no alum. And, secondly, supposing, by some chance, that these individuals had employed equivalent proportions. and that the results claimed by them were as they state when bread was manufactured, what would happen in sweet biscuit. cakes, or other articles of confectionery of which sugar forms a part? In such articles part of the alum would remain unchanged, for according to Pelouze and Fremy certain organic substances, of which sugar is one, prevent the precipitation of alumina, so that sweet cakes prepared from alum baking powders would contain that substance in an unchanged state.

The little value as flesh producers of those vegetables which contain any considerable trace of alumina, and its almost entire absence from those which contain the substances necessary for the support of life, would cause us to infer that nature did not intend it to form one of the constituents of our daily food.

Baron Liebig, Carpenter, Dundas, Thompson, Gibbon and others, assert that the continued use of alumina will produce dyspepsia and other troubles. Too much caution cannot be exercised in the choice of substances destined to form part of our daily food, if we wish to preserve our health and prolong life. It is for this reason that only such baking powders should be made use of as are composed of pure bitartrate of potash and soda, mixed with a little starch, to insure their subdivision. There are many such to be found ready for use and so mixed as to possess the greatest amount of lightening or rising power, such as Borwick's, Royal, Excelsior, Egan's Louisiana Baking Powder, etc. There is no doubt but, that, baking powders when prepared from pure cream of tartar are a great boon to every housekeeper, and produce bread or biscuits in less time and in a greater state of perfection than when yeast is used. Some attention is however to be paid to the proportions used in their manufacture; an excess of bicarbonate of soda giving rise to streaky or unpalatable bread, whilst, an excess of cream of tartar would interfere with the lightness of the article. For this reason it is always preferable where a pure article can be obtained to purchase them ready made, since the experience of the manufacturers enables them to prepare a powder more likely to be uniform in its composition than the home made article.

The constantly increasing sale of articles for food uses of an objectionable or injurious character would seem to call for some active interference on the part of the medical faculty; it would seem moreover, to be clearly within the province of the members of the medical profession, as guardians of the public health, to frame and to enforce such laws as would tend to do away with the evil. Notwithstanding that, the United States Government (August 13th, 1878) granted a patent for the exclusive right to manufacture Exsicated Ammonia Alum Baking Powders, and thereby injure the public health; it is no less their duty to do everything in their power to discourage the use of such articles.

New Orleans, February 15th, 1879.

# CURRENT MEDICAL LITERATURE.

#### THE SPAYING OF WOMEN.

A NOTE HISTORICAL AND PHILOLOGICAL.

By J. H. AVELING, M. D.

Physician to the Chelsea Hospital for Women; Vice President of the Obstetrical Society of London.

Extirpating the ovaries of the human female is an operation of great antiquity. It has been performed for many centuries by Eastern nations from motives social, æsthetic, and religious. Those who wish to trace the operation back to remote periods may find a bibliography relating to it in the "Satyra Medica" of George Frank de Franckenau, 1722, which will require weeks to investigate. The first section of the second "Satyra" contains the pith of what was known upon the subject up to the time of his writing-the chapter, "De Castrandis Mulieribus," in the book of Père Theophile Reynaud, entitled, "Eunuchinati, facti, mystice," 1655; and the little treatise, "De Castratione Mulierum," by Georgius Francus, 1673, etc. In the present paper, however, it is not my intention to consider the operation of spaying the human female in any other light than as a remedial operative procedure; and I shall endeavor, first, to point out whom I believe to be the originator of this operation; and, second, to consider the relative fitness of the names which authorities propose to give it.

## HISTORICAL.

Who proposed the operation?—I will first investigate the claims of Dr. Robert Battey, of Georgia. In August, 1872, he extirpated both ovaries from a patient who "was suffering with the perturbing influences of an unrelieved menstrual molimen." In commenting upon this operation he says: "You perceive I have proposed for your acceptation a new operation in surgery, which I believe to be original with myself in its conception, original in its elaboration, and original in its successful operation." Dr. Battey is supported in his claim by many high authorities. The committee to whom Dr. Battey's paper, "On the Removal of the Ovaries," was referred by the Georgia Medical Association, reported, "that they concur in according to the idea and its successful execution by its author the merits of originality, skill, and utility."\* Dr. Marion Sims writes: "Battey is the originator of this operation;" and all the American gynæcologists who have written upon the subject endorse his opinion. In this country Dr. Battey's claim is also acknowl-

<sup>\* &</sup>quot;Normal Ovariotomy." By Robert Battey, M. D., Atlanta, Georgia, 1873.

<sup>† &</sup>quot;Battey's Operation." By J. Marion Sims, M. D., London, 1878.

edged. Mr. Spencer Wells writes: "Until Battey's recent proposal to remove 'normal' ovaries, or ovaries only slightly enlarged, no ovariotomist ever contemplated the removal of an ovary not measuring more than three inches by two inches." Other writers in England and on the Continent (excepting He-

gar) have also supported or admitted Battey's claim.

At a meeting of the Royal Medical and Chirurgical Society of London, held on Tuesday, June 3d, 1823, (Mr. Abernethy, president, in the chair), the following paper was read, and thanks voted to the author for his communication: "A Contribution of Experiments and Observations on Injuries of the Belly, considered in their relation to Abdominal Surgery, by James Blundell, M. D., Lecturer on Physiology and Midwifery at Guy's Hospital; communicated by J. H. Green, Esq." From the experiments, which are briefly noticed, the author suggested that the following inferences may be drawn:

"1st. That the generally received opinion that inflammation in a spot of the peritoneum will almost invariably diffuse itself over the greater part of that membrane, is unfounded on

truth.

"2nd. That extensive divisions of the peritoneum are not of necessity fatal, and that the womb, spleen, and ovaries may be

taken away without necessarily destroying life.

"Reasoning from these facts and observations, the author proceeds to suggest the consideration of some operations which hitherto have not been considered justifiable by British surgeons, such as a division of both the Fallopian tubes, the extirpation of the healthy ovary, the extirpation of the ovarian cyst or dropsy, or a portion of it, the removal of the cancerous womb, the puerperal uterus, § and of part of the bladder and

spleen."¶

This paper was not published in the transactions of the Society, but was printed in abstract two years after, in a small volume entitled, "Researches Physiological and Pathological," by James Blundell, M. D. The feelings of the author may be learnt from the quotations on his title page: "Thou art a blessed fellow to think as every man thinks," etc., (Shakspeare.) It is very much to be regretted that the whole of the original paper cannot now be consulted, but from this "Substance of a Paper read before the Medical Chirurgical Society of London, in the year 1823," we gather further valuable information. At page 26 may be found the following remarkable paragraph: "The extirpation of the healthy ovaries. This operation, even granting it to be safe, can scarcely in any instance be necessary, though it may be observed by the way that it would probably be found an effectual remedy in the worst cases

<sup>‡</sup> British Medical Journal, Nov. 23d, 1878.

<sup>§</sup> P. Hubert de la Touche, in his work, "De l'amputation Utero-ovarique," seems te be ignorant of Blundell's suggestions.

<sup>¶</sup> Excerpt from the Minute Book of the Society.

of dysmenorrhoa, and in bleeding from monthly determination on the inverted womb, where the extirpation of the organ was rejected."

This is, I believe, the first proposal to extirpate the healthy ovaries for medical purposes, and it is surprising how the author has, in selecting the two examples in which he thought it might be useful, anticipated modern operators. "Dysmenorrhæa and bleeding from monthly determination," will be found to include most of the causes for which the operation has been suggested as a remedy, and we are compelled to answer the question, Who first proposed extirpation of the healthy ovaries as a remedial operative procedure? by replying, James Blundell, M. D.

Who first performed the operation?—As a matter of fact Professor Hegar, of Freiburg, was the first to perform spaying as a medical operation; but it is to Dr. Battey that the credit belongs of having popularized the operation and pressed it upon the attention of the profession. To him also belongs priority of publication.

#### PHILOLOGICAL.

Three names have been proposed for this operation, "Normal ovariotomy," "Battey's operation," and "Spaying." The first was proposed by Dr. Battey, but it has not received the sanction of medical men, for in many of the cases the ovaries removed, although small, were not normal in structure. Dr. Battey, in the first volume of the "Transactions of the American Gynecological Society," maintains the accuracy of the term "Normal ovariotomy," but adds: "Since, however, the use of this term has met with no favor at the hands of the profession, and especially as it has but served to obscure rather than elucidate my meaning, I have cheerfully abandoned it, but in so doing I find myself at a loss at present to offer any suitable substitute." For the present he seems to have adopted the definition, "Extirpation of functionally active ovaries."

The next term is due to Dr. Marion Sims. He says: "Battey asked me some time ago to give his operation a name. I would like to see it recognized by the profession as 'Battey's operation.' I think he is fully entitled to that honor. He was the first to grasp in its widest range the influence and effects upon the general system of what he calls an 'unrelieved menstrual molimen.' He was the first to suggest a method of cure; he was the first to carry out his own suggestion, and to perform an operation for the cure of the disease that had never been cured before. He performed the operation on his own responsibility, and with no great authority to sustain him." Now, it turns out that Dr. Marion Sims did not perfectly understand Dr. Battey's position in reference to the operation. Dr. Battey was not the first to understand the influence which spaying would have upon the general system; he was not the

first to suggest it as a method of cure; he was not the first to perform the operation; and if he performed it with no great authority to sustain him, it was because he had not read Blundell's "Researches Physiological and Pathological." If the operation, therefore, is to be called after any man, it should, I think, have prefixed to it the name of Blundell. This suggestion, however, I do not seriously urge.

The third term, "Spaying," has been used by Professor Trenholme,\* of Montreal, and Dr. William Goodell,† of Philadelphia. The latter says: "Since it is important to distinguish this operation from that of ovariotomy proper, and since it is not easy to define it except by circumlocution, I shall call it Spaying—a term which as technically defines the character of the operation as that of castration defines the analogous operation in the male." The only objection to this term I have met with, has been made by G. J. Engelmann, M. D.,‡ of St. Louis, who says that the term is inappropriate, as it signifies "extirpation of healthy ovaries." This, however, is hypercritical, for by the same process of reasoning the term castration would be equally inappropriate when applied to the male; yet it is well known that castration is usually performed for diseased conditions of the testes.

Of the three names which have already been suggested, I am inclined to prefer "Spaying." It is short, concise, and free from ambiguity. It is derived from the Greek (to draw out), and merely signifies the action of removing the ovaries, whether they be healthy, functionally disturbed, or changed in structure.—Obstetrical Journal, January, 1879.

## INFANT MORTALITY IN RUSSIA.

There is hardly a country in the world where infant mortality assumes more appalling dimensions than in Russia. This may easily be explained by the method in which newborn infants are commonly treated, so that it is a wonder how children survive. After birth, the baby is wrapped up in towels and left for several hours on the bed, till the bath-room has been thoroughly heated. (No cottage, be it ever so poor and miserable, is ever built without a bath-room, which is generally a draughty, miserable place.) Here the child is at last bathed in a most primitive way, and often either dies from cold or is scalded by the hot water. It is then brought back into the house, laid upon the stove (a large stove with a broad top is at once the bed and bedroom of the whole family); and immediately a dirty rag, containing brown bread which has previously been chewed by the mother, is put into the child's mouth to be sucked. This bread being very sour, the acidity

<sup>\*</sup> Obstetrical Journal of Great Britain and Ireland, vol. iv., p. 425.

<sup>†</sup> American Journal of Medical Sciences, July, 1878.

i American Journal of Obstetrics, etc., vol. xi., July, 1878.

causes the muscous membrane of the child's mouth to ulcerate, and produces microscopic fungi. This is considered as being quite normal by the relatives, who say simply, "The child is blooming;" and it is not put to the breast till this period of "blooming" is over. The screams of the infant are not attributed to pain, but to hunger; and accordingly its mouth is either stuffed with some porridge made of dry oatmeal, or a few drops of water are simply poured down its throat. If the child has survived this treatment, it is put to the breast; but if it should not be able, either from too great bodily weakness or from the state of its buccal mucous membrane, to seize the nipple, it is taken away, and again the dirty rag or a horn is put into its mouth. This last primitive feeding-bottle consists of a cow's horn, over the pointed end of which is drawn a piece of the udder. This mouthpiece is generally changed twice a month. The milk (skimmed milk generally) is poured into the open end of the horn. It will be easily understood how tastefully this beverage is, if we add that the milk often turns sour, the udder decays, and flies fall into the horn. If the child persist in screaming, more oatmeal porridge is stuffed into its mouth. This sad state of things, is not only found among the poorer class, where it might be excused, but even among wealthier classes—e. g., merchants—where dirt and ignorance prevail to an almost incredible degree.—British Medical Journal, February 8, 1879.

#### THE SPECIFIC GRAVITY OF BRAINS.

Two Italian physicians, Drs. Colombi and Pizzi, have carefully examined the specific gravity of the brain in seventy post mortems. They find 1.023 for men, and 1.018 for women; but these figures also vary considerably according to age, the average (for both sexes) being 1.019 up to fifteen years of age, 1.026 between fifteen and forty-five, and 1.017 afterward. The brains of insane patients vary considerably on either side of these figures, the lowest they have observed being 1.013, the highest, in one containing many nodules of sclerosis, 1.044.—Cincinnati Lancet and Clinic, Nov. 16, 1878.

SCHNEIDER, OF KONIGSBERG.—RESECTION OF RIBS AND CLAVICULA.

On October 10, 1877, O. H., clerk, 21 years old, made an attempt to commit suicide by firing a terzerol with two big buck shot.

He made a penetrating wound two centimetres in diameter on the left side of the sternum above the third rib with an extensive laceration of the lungs. Disinfection being neglected, the patient had to suffer from hæmato-pyo-pneumothorax and gangrene of the lung, commencing on the fourth day after the injury and accompanied by chills and high temperature.

On October 20, Schneider first performed thoracentesis for evacuating the ichorous and foul contents of the pleural cavity, by making an incision 5 centimetres in length between the 7th and 8th ribs. He then extracted the fragments of the crushed 3d rib and washed the cavum pleuræ thoroughly with a 2½ per cent, solution of carbolic acid.

Through the wound, which had been considerably enlarged by the operation, he could see the upper part of the heart, the pericardium, the contraction of auricles and the pulsation of

the great vessels arising from the heart.

As far as the lung could be seen it was gangrenous, and the

greater part of its superior lobe was wanting.

The after treatment consisted in a frequent and careful washing out of the thoracic cavity with an antiseptic solution; a silver cancula covered with antiseptic bandages being left in the lower opening. The patient had chills for the following days—no appetite, the gangrene of the lung extending, made the posterior wall of the thorax visible and the balls could be detected. While touching one of them with a sound it fell down in the thoracic cavity upon the diaphragm. During the following night the other ball fell down also. The patient was put under the influence of chloroform, and having been placed on the side, both balls were extracted with the index finger, bent hook-like.

In the first week of November the necrosis of the lung terminated favorably and the patient had no fever thereafter. The lung shrivelled together more and more at the hilus, became hard to the touch and covered with firm cicatricial connective tissue.

By cicatricial retraction the original shot-wound was now eight centimores long and four broad. There being no trace of retraction of the left pleural cavity and as the patient was sinking more every day, Schneider thought a resection of different ribs for reducing the thoracic cavity was indicated. Following Simon's approved idea, to reduce old empyæmic cavities with fistula by resection, Schneider operated on December 6th, 1877, eight weeks after the injury, resecting from the second rib four centimetres from the 4th, 91 centimetres from the 5th, 9½ centimetres from the 6th, 11 centimetres, all from their junction with the costal cartilage. The success of this extensive resection appeared soon. After one week the lower thoracic cavity commenced to diminish in size, pushing the heart slowly to the left. The upper thoracic cavity above the 3rd rib, where no trace of lung existed, remained unchanged. Therefore on the 15th of January, Schneider made a subperiostal resection of the clavicula, removing a piece 6 centimetres long in order to draw the left shoulder nearer to the sternum and the soft parts of the super and infraclavicular region, in the thoracic cavity. The attempt proved successful. The soft parts became drawn into the cavity, the upper part of the pericardium and the great vessels moved also more and more to the

left and the upper part of the left pleural cavity where before the resections of the clavicle three fingers could easily be introduced, first week of March, admitted only a middle sized Since the end of March the left pleural cavity has become wholly filled, closed and at the place of the original shot-wound exists a funnel shaped scar and a small superficial The opening from thoracentesis is healed a long time. The resection wounds of ribs and clavicle healed by first intention.

The left arm has free motion in every direction and its function comparing it with the right arm is confined very little. The left clavicle is not more depressed than the right. The left scapula is somewhat lower than its fellow, and not the slightest symptom of scoliosis exists.—Hospital Gazette and Archives of Clinical Surgery.

# DIFFERENCE BETWEEN ZYMOTIC AND SEPTIC POISONS.

These are well set forth in a recent lecture by Dr. Reginald Southey, of London. The zymotic contagium, be this what it may-some modified blood or soluble animal cell, some fungus or low vegetable germ, zoospore or microspore-requires cooking or hatching for a certain period of time in the individual who has received it, before any apparent change or reaction can succeed. Some period of incubation must elapse, during which the poison infects or impregnates the whole system, before this manifests its presence by symptoms; but when the reaction is manifested, it is general at once throughout the body. So soon as the poison begins to work its changes, indefinite symptoms may arise, such as are common to all grave blood changes, and are non-appointing. You will have often heard me say at the bedside that a patient appears to me suffering from a general reaction to some one of the exanthemata contagia, which one I cannot tell until the rash comes out.

Three stages may thus be distinguished in the history of zymotic poisoning. (a) A dormant stage without symptoms; (b) an incubating stage with general symptoms; (c) a specific

stage with general appointing symptoms.

No such separate stages can, I think, be observed in disease produced by septic poison. It is true that the poison of erysipelas, septicæmia, hydrophobia, sometimes lies latent in the body into which it has been inserted, but this latent period is non-essential; nay, rather it may be regarded as accidental, for from the first instant the poison reaches vulnerable surfaces, the reaction commences, the body is forthwith infected. A late or deferred reaction is apparently only due to encapsulation of the poison at the poison wound, its separation really from the body by a limitation barrier. Within such a capsule the poison germs lie like seeds inside a seed-case. Furthermore, in septic disease the reaction process first manifests itself at the point where the virus is inserted, and spreads

from this focus, gathering force as it goes. There is no incubating stage—the specific symptoms follow at once. We perceive next that the quantity of virus or poison inserted makes absolutely no difference to the total sum of the reaction or specific symptoms provoked in the instance of zymotic disease, whereas both the form and quantity of the septic poison materially influence the course and gravity of the reaction induced. Finally, in both septic and zymotic disease we perceive a conflict between the stability of the poison entity and the stability of the person poisoned, but a conflict with this remarkably different issue, that the zymotic poison always vanquishes the body and leaves its stamp or mark upon it, whereas the septic poison is either vanquished and cast out, or obtains predominance, corrupts and destroys the individual.—Med. and Surg. Rep. Jan. 11, 1879.

# OVULATION WITHOUT MENSTRUATION.

The relation of the discharge of ova to menstruation and of menstruation to the discharge of ova is a question to which considerable attention has in recent years been directed. It has been shown repeatedly by anatomical examination that menstruation may take place without the occurrence of ovulation, but similar evidence has hitherto been wanting in favor of the belief that ovulation may take place without menstruation. The opinion that ovulation may take place without menstruation has been based upon the fact that women who have never menstruated have borne children; but this was unsatisfactory, inasmuch as the objection may have been raised that the woman would have menstruated had not conception taken place—that, in fact, the occurrence of conception prevented that of menstruction. M. de Sinety has, however, set the question at rest by anatomical evidence. Before the Société de Biologie he described the anatomical characters of the uterus and ovaries of a woman who had never menstruated. She was thirty eight years of age, and, with the exception of the menstrual flow, had presented from her tenth year all the symptoms of puberty. The uterus was externally of normal volume, but the cavity was formed almost entirely by that of the neck; the cavity of the body was like that of a feetal organ, and the mucous membrane presented the character of the infantile condition. Ovulation had been very active, for the ovaries presented many false corpora lutea. - Lancet. - St. Louis Medical and Surgical Journal, November, 1878.

#### PREMATURE BALDNESS-ITS CAUSE AND TREATMENT.

Dr. Geo. H. Rohe, in the Atlanta Medical and Surgical Journal, discusses the cause and treatment of the shiny pate as it occurs in young men. Contrary to a common notion, baldness is not a result of early piety, but is owing to an increased

secretion of sebaceous glands. This augmented secretion may be owing to either general or local causes. Its accumulation on the scalp gives rise to dandruff which is not as has been supposed a scaling of the superficial layers of the epidermis. The altered sebaceous matter not finding ready exit on account of its abnormal dryness, chokes up the hair sheath, and finally—generally after months or years—leads to falling of the hair and atrophy of the hair bulb. The alopecia consequent on the specific fevers and other grave constitutional diseases is usually preceded and accompanied by a more or less general seborrhæa.

This view of its pathology suggests the treatment. The cause being sometimes constitutional, local treatment will not always suffice. In cases of premature alopecia search should be made for a systemic cause, as syphilis or tuberculosis, or more commonly, innutrition from chronic dyspepsia. Of medicines, iron and arsenic should be given in combination. The mineral acids are especially indicated in dyspepsia. In some cases cod liver oil and iodine are valuable remedies.

Most persons troubled with dandruff resort to a fine tooth comb or a stiff hair brush. Dr. Rohe disapproves of these. Having himself been afflicted, he tried all the stereotyped remedies without favorable result. He had seen chloral in solution very highly recommended, and gave it a trial but found it aggravated his trouble. The plan he finally adopted, and which brought relief, he copied from Hebra's late work on Diseases of the Skin.

The success of the method depends upon the use of an agent which, while mildly stimulant, removes the scales and thoroughly cleanses the scalp. This agent is the German or French soft soap (green soap, schmierseife, savon vert.) in alcoholic solution. This soap is now imported in large quantities and prescribed daily by the dermatologists of Boston, New York, Baltimore, Philadelphia and other cities. The soap containing an excess of alkali saponifies the fatty matter of the sebaceous secretion, and it is thus easily removed. The alcohol greatly assists this action, and seems also to have an alterative action—if such an indefinite term is excusable—on the glands. The two may be combined as follows:

R. Saponis viridis. (Germ.),
 Alcoholis, aa 3ij.
M. Solve, filtra, et adde
 Ol. lavandulæ gtt. xx—xxx.

The oil of lavender is added to cover the disagreeable fishy odor of the soap. The above makes a very handsome orange or wine-colored preparation, with a pleasant odor, to which the most fastidious will hardly object.

This is used as a shampoo every morning or evening, pouring one or two tablespoonfuls on the head. Upon the addition of water, and smart friction with the fingers, a copious lather is soon produced. After keeping up the shampooing process for

four or five minutes, all the soap must be washed out of the hair by the free use of warm or cold water, and the hair thoroughly dried by means of gentle friction with a soft towel. The immediate effect experienced is a disagreeable feeling of tension of the scalp, as if it were stretched too tightly over the skull. To obviate this effect, and to keep the scalp from getting too dry and thus, perhaps, set up a true pityriasis, it is necessary to follow up the shampooing with some fatty application, which may contain some mild stimulant, thus: Castor oil, 1 part, to alcohol 3 or 4 parts, with a little oil of rosemary or cinnamon, or the elegant pomades and oils of Bazin and other manufacturers may be used. But the best, as well as the neatest preparation that I have employed for this purpose, is the hydrocarbon known in commerce as cosmoline. This is a product obtained from petroleum. It is entirely bland and unirritating; never turns rancid, and is comparatively cheap. It may be obtained in the fluid form or as a soft solid.

This procedure, shampooing, drying the hair and applying the greasy preparation must be repeated daily for three or four weeks. In the course of that time it will be discovered that the production of scales and the falling of the hair has been very markedly decreased. It will then suffice to repeat it twice or three times a week for a month or two longer, after which a good shampoo once a week will usually succeed in maintaining a permanent cure.

Most patients will be alarmed after using this method at first, because the hair comes out in greater quantity than before. This is due to the fact that a large number of hairs are dead and only retained in their follicles by plugging of the sheath with the accumulated sebaceous matter. The patient should, therefore, always be prepared for this result, and the cause of the increased falling of the hair explained to him.

It is not necessary—though more convenient—to cut the hair short during the treatment.

When the alopecia has lasted so long that the hair-bulbs have become atrophied, nothing will restore the hair on those spots. Our endeavors must be directed to saving what remains. A prognosis favorable to the restoration of the hair must, therefore, be given with caution.—*Michigan Medical News*, November 25, 1878.

#### HYPODERMIC INJECTIONS OF ERGOT IN FIBROIDS OF THE UTERUS

It is maintained by Leopold, who supports Hildebrandt, Winkel, Wernich and others, that success depends largely upon the selection of the case, the mode of preparation of the drug, and the continuance of the treatment.

The form of fibroid that gives the best results is the interstitial, although advantage may be expected in lessening the hæmorrhage in the submucous variety. Cases occur in which the uterus is incapacitated from contracting. Therefore, unless when false membranes or exudations bind down the uterus, or when a fatty degenerated or calcarious tumor, whose fibres are atrophied or the blood vessels are degenerated, ergot is indicated. Those in the body of the uterus are better influenced than those of the ceryix.

Leopold finds the best preparation to be Wernich's extract, dissolved in 4 parts of water. Additions of glycerine, salicylic acid, and carbolic acid, are objectionable. Solutions should be frequently renewed. The best seat of injections is the sides of the navel, deeply and slowly discharged. Cold compresses are useful. Keep the patient on the back for several hours afterwards. Continue for some time, 30—120 injections in each case, if borne. Use each day, especially during the menstrual periods. Intervals may be lengthened, if improvement.

In 12 cases—no improvement occurred in 3.25 per cent. Less bleeding, without diminution, in 5.42 per cent. Shrinking of tumor in 4.33 per cent. Improvement thus took place in 75

per cent.

Of 14 cases of chronic hypertrophy of the uterus, and 8 of sub-involution, 5 of chronic metritis, and 1 of exfoliative endometritis, the chief effect was the diminution of the organ, in from 1—6 weeks. He thinks that from 50—60 injections should be used. In the majority of cases, the treatment was accompanied by an improvement in the general condition of the patient's strength and appetite.

Section of the uterus in 2 cases, who died of other disease in no way connected with the fibroid, in whom hypodermic medication had previously been employed, showed that the uterus had become compressed, the vascular supply largely cut off, the tumors rendered anamic, whilst fatty degeneration had commenced in the muscular fibres.—Archiv. für Gynäkologie, Bd. xiii, s. 132.—Cincinnati Lancet and Clinic.

# TREATMENT OF NOCTURNAL INCONTINENCE OF URINE.

## BY DR. KELP.

The author has treated successfully rebellious cases of the trouble by the hypodermic use of nitrate of strichnia. The injection is made in the neighborhood of the sacrum. A single dose stops the trouble for a little time. When the symptoms return the injections are renewed. The last observation was on a young woman of sixteen years, who after an attack of scarlet fever, suffered several months from incontinence, in spite of every precaution. The first injection of strichnia procured a cessation of the incontinence for several nights. The treatment was repeated and the cure was completed. The patient was a strong girl in good health and had never before suffered from incontinence.—Gaz. Hebdomadaire.—Oincinnati Lancet and Olinic

### ANOTHER LIVING HUMAN MONSTROSITY.

Baptiste and Jacques Tocci.-We are indebted to the Lyon Medical for the following description of a double creation now on view in the Rue de la Barre; being that of an infant, æt. 12½ months, with two heads, four upper extremities, two thoraces, one abdomen, one penis, two testacles, one anus, and two lower extremities, and called Baptiste and Jacques Tocci-They were born on Oct. 4, 1877, at Loccana, in the arrondisement of Turée Haute-Italie; their father, æt. 32, and mother, æt. 20, accompanying them, the latter being a perfectly formed, beautiful, and healthy Italian brunette. This was her first pregnancy, which was perfectly normal, During the period of carrying she had not experienced any emotion or shock likely to exercise any normal influence in causing this strange formation. Her labor lasted eight hours, the children presenting by the head. According to the testimony of the midwife, there was only one placenta and one cord. At the age of one month the twins were taken to Turin and examined by Professors Rubini and Mosso. At present Baptiste and Jacques Tocci are two strong children for their age, though neither have teeth. There are two heads, two necks, and two upper trunks absolutely distinct, so that in front and rear they seem like two individuals.

About a line starting from the insertion of the diaphragm the single character commences, and in front it looks as if it were one individual, though behind there are indications of two dorsa. The anus is unique, and some of the observations in connection with it are singular, for according to the evidence of the father, defecation takes places in each individual separately, noticed by the efforts of expulsion made by one of the upper heads without disturbing the other, so that there would seem to be two digestive tubes opening into a single rectum. Dr. Mosso found that the heart of Baptiste beat at the rate of 152 a minute, that of Jacques, 154. The most interesting part in connection with them are the nervous functions. The cerebral and spinal centres are distinct, and there are three hypotheses as to the distributions of nervous power in the lower extremities.

Baptiste and Jacques presents a certain analogy with a double monster known under the name of Rita-Christina, observed by Geoffroy Saint Hilaire, in Paris, in 1829, and reproduced by him in his Atlas. Most of our readers will remember Millie-Christine, who was lately exhibited in England. As Baptiste and Jacques Tocci increase in years interest will grow with their development, for there are many obscure points which can only be solved by time.

M. M. Colrat and Rebatel indulge in this speculation:—"If these reach puberty, as they only have one genetic organ, how will it supply the wants of a double intelligence?" The twins have escaped the perils of the first 12 months of infant life,

and may probably live to puberty, for, according to the historian Buchanan, a somewhat similar creation lived to the age of 28 years at the court of James IV.—The Medical Press.—Hospital Gazette, Nov. 28, 1878.

# THE EXTERNAL USE OF DIGITALIS IN SUPPRESSION OF URINE.

Dr. P. C. Russell gives these cases in the British Medical Journal:

CASE 1.—A married woman, aged 35, was attacked by acute albuminuria. The disease resisted the usual remedies. She became extremely edematous, with congestion or edema of both lungs. Respiration was rapid; the pulse weak and rapid. She became semi-comitose, and there was suppression of the urine for thirty-six hours. The case appeared hopeless; but, having read in the British Medical Journal a case in which the external use of digitalis was effectual in restoring the secretion of urine, I determined to try it. I ordered half an ounce of the tincture on a large linseed meal poultice, to be applied to the abdomen. Next day I was agreeably surprised to find her vastly improved, quite conscious, and cheerful. The cedema was very much diminished. Respiration was easy, and the pulse nearly natural. I was informed that in one hour after the application a copious flow of urine commenced and continued all night, and what was very remarkable, the urine, which the day before contained a large quantity of albumen, was now quite free from it. Convalescence was rapid, and she is now quite well.

CASE 2.—A man, upward of fifty years of age, much addicted to the use of ardent spirits, after a bout of drinking, was seized with violent pain in the frontal region, attended with delirium, quick pulse, and fever, followed by imperfect hemiplegia in the left side. Next day he became comatose, and the urine was suppressed. The digitalis poultice was applied, and in the course of six hours urine was secreted and passed in large quantity, and the coma gradually disappeared. He improved in every respect for two days, when the urine was again suppressed and coma again set in. The digitalis poultice was again effectual in restoring consciousness, and the man gradually recovered, still slightly hemiplegic; but he has since gradually recovered the use of his limbs, and is now able to follow the occupation of a weaver.—Medical and Surgical Re-

porter, Feb. 22, 1879.

# ADULTERATED CHLOROFORM.

At a late meeting of the Academy of Medicine, of Paris, M. Maurice Perrin called the attention of the members to the accidents determined by the use of adulterated chloroform. He remarked that this agent of anæsthesia was much less to be relied upon than in former years, and this was probably due to

the fact that the tax upon alcohol had been considerably augmented some few years ago. He had observed that it was now sometimes necessary to submit the patients to inhalation for twenty or thirty minutes, in order to obtain the effects, whereas before five to six minutes generally sufficed. Indeed, in some cases he had not been able to obtain anæsthesia at all, and that with chloroform taken from private pharmacies. He also remarked that before it was an exceptional occurrence to have vomiting, but that now it was the rule. Finally, he had seen two cases where death was very nearly the result of the administration of adulterated chloroform. He had tested several samples of chloroform, and in each case he had discovered the mahogany-red tint which is the characteristic of the impure agent. When he had these purified, he did not meet with any of the accidents he had spoken of .- Medical and Surgical Reporter, Feb. 22, 1879.

#### THE PLAGUE IN RUSSIA.

The Vratschebniya Vedomosti of January 14th (26th), reports that a meeting of the society of Russian physicians took place on the 12th (24th) of January, with the special purpose of discussing the nature and treatment of the outbreak of epidemic disease, which has filled, not only Russia, but also Europe with alarm. Professor Botkin, physician to the emperor,

spoke at some length, mainly to the following effect:

Up to a very late period, telegrams, etc., had been published in papers, containing only very brief notices about the spreading of the epidemic and the disease itself. Dr. Krassowski, who had been sent to Wetlianka by the government, had telegraphed that it was not the plague, but an acute typhus fever. However, the enormous mortality made Dr. Krassowski's diagnosis appear rather doubtful. Suddenly, Dr. Döppner's telegrams arrived, in which the advance of the epidemic and the symptoms of the disease were described. Having carefully studied and weighed all the symptoms mentioned in the telegram, Dr. Botkin came to the conclusion that the sickness which prevailed in Wetlianka was the plague, and the very worst form of it—the Indian plague or the black death of the fourteenth century, which was particularly characterized by affecting the respiratory tract. As to the diversity of opinion which has long reigned on the subject, whether the disease was really the plague, and the hesitation of Dr. Döppner to emit a decided opinion, Dr. Botkin thought that this might be explained by the fact that, at the outbreak of every such pestilential disease, not only in Russia, but also in other countries, there had been at the outset much difficulty in agreeing what the newly occurring disease really was; some calling it the plague, and others some form of typhus fever. It was true that typical cases of every zymotic disease presented certain

symptoms which might help to form a diagnosis; but in the course of an epidemic, a large number of cases occurred which it would be difficult to classify as typical from the symptoms alone. Even a pathological examination might fail to give decisive explanations. To answer the question as to the classification of a given affection, it is necessary to attend to the causation and diffusion of the disease, its mortality, etc. physician, arriving in some locality, and being ignorant as to its peculiar climate or tendency to develop some contagious disease, might be perfectly unable to make at once the diagnosis of the given malady. The plague, he added, appeared under very different forms; hence it was very difficult to say, especially at the onset of an epidemic, when few, if any, typical cases had come under notice, that it was the plague. This question could not be decided till the typical cases prevailed to such an extent as to convince even the most sceptical observer. The Russian climate was, he added, such, that the plague never broke out in it; it was always brought from the This point was a most important one in identifying the disease. Dr. Botkin himself would have been doubtful as to whether the epidemic which appeared in Wetlianka was really the plague, or only a pestiform typhoid fever, if he had not positive facts as to its spread, and could not directly prove whence it came.

In 1877, in Astrachan and other places, there prevailed a febrile disease, which was complicated with buboes; but the patients generally recovered. The same disease appeared in Wetlianka shortly before the outbreak of this fearful epidemic. It was also known that in Recht, in Persia, the plague prevailed in 1877. There was a constant communication between Recht and Astrachan, by means of which the infection had been brought to Russia. At the onset of the disease, the cases were slight, and the patient recovered; but towards the end of last year, they assumed, in Wetlianka, the character of

an epidemic, followed by an appalling mortality.

The question was finally settled by these facts, viz: The epidemic of 1877 in Recht, the frequent communications between it and Astrachan, the pestiform affection which subsequently appeared in Astrachan and its neighborhood, and, lastly, the serious form which these slight cases finally assumed. Dr. Botkin differed from Dr. Hirsch regarding the Indian plague. The latter looked upon this disease as a special form of the plague, while Dr. Botkin thought it stood in the same relation to the bubonic plague as did bilious typhoid fever to intermittent fever. The Indian plague was a very acute form of bubonic plague, so that death occurred before the buboes had time to develop.

Professor Tschudnowski read a paper on the best method of treating the disease. The first point was to obtain absolute purity of the air, because the patient who was obliged to breathe in a pestiferous atmosphere, continually took in new poison, which was more dangerous because his organism was unable to resist its influence. The best way of treating the plague was by warm baths, which acted favorably on the respiration and the heart, thereby counteracting the deleterious effects of the poison, and assisting the organism in its excretion. The baths were also very useful in combating the fever, although quinine and salicylic acid would have the same effect. In cases requiring stimulation, the patient must be put into a tepid bath, have cold water poured over him, and enemata of iced-water should be administered. If the condition required it, slight aperients must at once be administered; slight attacks of diarrhoa had best be let alone. Should there be dyspepsia, great care should be taken in administering emetics, because of their effect upon the heart; it was better to use, in such cases, antiseptic drugs, such as a weak dilution of hydrochloric acid. The action of the skin must be kept up by friction. If the use of jaborandi had not so many drawbacks, it would be a capital remedy for promoting excre-The nutrition of the patient must also be attended to most carefully, and the buboes and carbuncles dealt with according to the rules of surgery.—British Medical Journal, February 8, 1879.

# THE COLLODIAN BANDAGE IN THE TREATMENT OF UMBILICAL HERNIA.

Umbilical herniæ are very frequent in the first year of life. They are of different forms, according to their chronicity and the age of the child. (1) A slight enlargement of the umbilical ring through which a small tumor projects. (2) A considerable enlargement of the umbilical ring, through which a tumor projects varying in size from a walnut to an apple. (3) A slight enlargement of the umbilical ring, with small or large projections, variously located about the ring, above which the principal mass of the tumor projects. (4) A considerable enlargement, and simultaneously a considerable projection of the ring. Under this latter form the largest umbilical herniæ occur. The first category heals without artificial aid, the 2nd, 3rd and 4th classes require treatment on account of their size, and continual increase.

In the Vienna general Polyclinic, the collodion of Rapa (of Naples) is used. It is applied in the following manner. The mother takes the child on her lap, the shoulder lying on the left, the hips on the right leg. The upper extremities of the child are held fast by the left hand of the mother, the lower extremities by the right hand.

The hernia and its vicinity are now penciled over with a

broad layer of collodion. The hernia is now reduced, and a folded compress 4 centimeters wide and 3 centimeters long is placed over the ring, the side next to the hernia having been covered with collodion. This compress is held in place by an assistant, and along strip of adhesive plaster, 3 centimeters broad, is placed over it. This strip must be long enough to pass around the body and cross upon the abdomen. During the application of the plaster the recti-muscles must be pressed together by an assistant. Finally, over this a linen bandage equally long and broad is applied, and the entire surface of the bandage over the abdomen is covered with collodion.

To protect from eczema, Monti applies a mixture of emplast. diachyli simp. and cerat. fuscum, instead of the adhesive plaster. The formula is, emplast. diachyl. simp., 30; cerati fusci 10; ol. oliv. 9.5; ut liquifact, ft. emplast.—Cent. Zeit. f. Kdrhlk. 21, Der. Prak. Arzt., 8, 1878.—Cincinnati Lancet and

Clinic, Oct. 26, 1878.

#### SUBSTITUTES FOR ALCOHOL.

We find that the efforts of temperance reformers are turned much more than formerly towards introducing some substitute for alcohol. Failing in the direct attack they are attempting a flank movement. There is now manufactured to meet in part these demands a series of aërated waters which equal many wines in delicacy of flavor. Ales and beers with an inappreciable amount of alcohol, and wines from unfermented grapes are also made, and form agreeable drinks, which may, to some extent, satisfy the demands of social occasions. For the weariness that follows muscular or mental exertion, the best things are food and rest. If drinks are craved, we have in thin oatmeal or Liebig's extract of meat, foods which enter the circulation so rapidly that their effect is comparable to that of alcohol. These, it is suggested, may be aërated and made endurable by various additions. Tea, and especially coffee, are also available and useful in these cases. For the reforming drunkard, bitter infusions may be of service in addition to the drinks already mentioned.

It seems possible that some advance may be made by temperance reformers through efforts in this direction, and since, as a rule, man is better without alcohol, they should have the help of the medical profession.—*Med. Rec.* Feb. 15, 1879.

#### Bulletin of the Public Health.

Issued by the Surgeon General, United States Marine Hospital Service, under the National Quarantine Act of 1878.

No. 34. March 1, 1879.

OFFICE SURGEON GENERAL, M. H. S. Washington, March 5, 1879.

Boston—Week ended March 1st. Deaths from all causes 145, an annual ratio of 21 per 1000 of the population. 28 cases of scarlet fever, 2 deaths; 23 cases of diphtheria, 13 deaths. Enteric fever caused 2 deaths, bronchitis 3, pneumonia 18.

Providence—Week ended March 1st. Total deaths 53. Annual ratio 27.5. 10 deaths from acute pulmonary diseases, 11 from phthisis, 1 from diphtheria. Very slight prevalence of gymotic disease.

zymotic disease.

New York—Week ended March 1st. Total deaths 600. Annual ratio 28.6. Enteric fever caused 2 deaths, scarlet fever 44, diphtheria 21, croup 12, whooping cough 15, bronchitis 35, pneumonia 74, phthisis 97.

pneumonia 74, phthisis 97.

Brooklyn—Week ended March 1st. Total deaths 224. Annual ratio 20.63. 82 cases of scarlet fever, 9 deaths; 26 cases of diphtheria, 9 deaths. Croup caused 9 deaths, acute pulmon-

ary diseases 54, phthisis 36.

Buffalo—Week ended March 1st. Total deaths 38. Annual ratio 14. Scarlet fever caused 3 deaths, enteric fever 3, croup 4.

Rochester—Month ended March 1st. Total deaths 103. Annual ratio 14. Diphtheria caused 12 deaths, acute pulmonary diseases 10. One case of small-pox; the patient came direct from Havana, where the disease is prevalent, and was taken sick on the first day after his arrival in Rochester.

Pittsburg—Week ended March1st. Total deaths 51. Annual ratio 18. Enteric fever caused 2 deaths, diphtheria 2, acute

pulmonary diseases 16.

Baltimore—Week ended March 1st. Total deaths 145. Annual ratio 20.38. Enteric fever caused 1 death, scarlet fever 3, diphtheria 6, whooping cough 2, acute pulmonary diseases 36, phthisis 21,

District of Columbia—Week ended March 1st. Total deaths 93. Annual ratio 30. Scarlet fever caused 4 deaths, diphthe-

ria 1, acute pulmonary diseases 20, phthisis 11.

Hudson County, N. J .- Week ended March 1st. Total deaths

70. Annual ratio 19.2. Diphtheria caused 3 deaths, scarlet fever 1, acute lung diseases 9, phthisis 6.

fever 1, acute lung diseases 9, phthisis 6.

Philadelphia—Week ended March 1st. Total deaths 308.

Annual ratio 19.5. Enteric fever caused 8 deaths, scarlet fever 9, diphtheria 6.

Richmond—Week ended March 1st. Total deaths 29. Annual ratio 19.1. Searlet fever caused 3 deaths, enteric fever 1, pneumonia 6, phthisis 3.

Chicago—Week ended March 1st. Total deaths 107. Annual ratio 12. Scarlet fever caused 7 deaths, diphtheria 5, enteric fever 3.

Louisville—2 weeks ended March 1st. Total deaths 108. Annual ratio 17.5. Diphtheria caused 2 deaths, scarlet fever 1, enteric fever 3, acute lung diseases 27.

Savannah—2 weeks ended February 28th. Total deaths 38 (9 whites, 29 colored). Annual ratio for whole population 35. Diphtheria caused 1 death, enteric fever 1, diarrhæa 3.

Mobile-Week ended March 1st. Total deaths 11. Annual

rate 15. No deaths from zymotic diseases reported.

San Francisco—Week ended February 21st. Total deaths 88. Annual ratio 15. Diphtheria caused 3 deaths, acute pulmonary diseases 12, phthisis 11.

Havana-Week ended March 1st. Yellow fever caused 5

deaths, small-pox 10.

Pernambuco—4 weeks ended February 6th. Total deaths 462.

Annual ratio 47.5. Small-pox caused 127 deaths, yellow fever 7.

Rio de Janeiro—January 18th to 31st. Total deaths 429.

Annual ratio 44. Yellow fever caused 41 deaths, small-pox 26,

pernicious fever 20. Yellow fever prevails extensively among the shipping.

Montreal—3 weeks ended February 22d. Total deaths 215.

Annual ratio 31. Small-pox caused 38 deaths, diphtheria 9.

Small-pox has been very prevalent, causing 728 deaths in the last year, but is now diminishing under the efficient system of

vaccination recently introduced.

Great Britain—2 weeks ended February 15th. The average death rate in 23 large towns was 27.5. Small-pox caused 37

deaths in London, 49 in Dublin.

Official reports of European medical officers in China show conclusively that true "bubonic plague" has prevailed extensively in that Empire during the 30 years preceding 1873, when it was supposed to be wholly extinct. The reports also show that owing to the meagre facilities for communication with Central Asia virulent epidemics may ravage extensive districts of that country without any knowledge of their existence extending to Europe. The reports present records of the disease having prevailed in the Province of Yunnan, to which it seems to have been introduced from Burmah, during 20 of the 30 years in question, varying in intensity in different parts of the province, and in different years. The appearance of the disease was coincident with the breaking out of

the rebellion against the Imperial Government which was longer maintained, and suppressed with more violent measures, in Yunnan than in any of the other provinces; conditions which undoubtedly contributed greatly to its virulence, as did also the superstitious practice of refusing to bury the dead who are exposed on a bier to the sun till decomposed. The plague was very prevalent in Yunnan in 1871-2-3, and in the latter year suddenly reappeared in Mesopotamia and Persia, gradually extending its area until in 1877 it reached the shores of the Caspian Sea, prevailing especially at the town of Restch, which has a direct trade with Astrakan. In May and November, 1877, a fever of intermittent type, accompanied with glandular swellings prevailed in the port of Astrakan and in Wetlianka, and other villages of that province, and in November, 1878, a similar affection again appeared at Wetlianka; few deaths had occurred up to this time, but about December 1st, the disease assumed the malignant character that has marked the present outbreak. The report of the Russian Medical Service of the Interior for 1877, which has just been made public, announces that 241 cases of Siberian plague were reported to the government during the year, the mortality being 21 per cent.; the principal outbreaks occurred in the Provinces of Viatka and Tchernigow, which are at a considerable distance from each other, and were contemporaneous with, or occurred soon after, the virulent prevalence of the disease in Persia.

From the above facts, which have been obtained from official sources, and are in the main well attested, it seems proper to conclude that instead of the late outbreak being due to the spontaneous regeneration of the virus of the plague in the Valley of the Volga, or at the farthest, in Persia, the disease was reintroduced from China into Persia, and thence to Russia, local conditions in each instance probably favoring its development. Of these conditions no authentic account will be obtained until the International Commission of Experts who are visiting the infected district make their report. The return of cold weather, combined with the stringent measures adopted by the government, seem to have confined the late violent outbreak to the limited district where it first appeared. The American ministers to Austria and Russia report that the disease has manifested such an extremely virulent and contagious character that great alarm exists in the whole of Eastern Europe, and urge upon the government the necessity of taking measures to prevent the possibility of the introduction of the disease into the United States. The measures already taken by this government for preventing the importation of goods from the infected districts, except under proper precautions, are, for the present, considered insufficient for this purpose, especially if the port of entry are kept free from the unsanitary conditions that favor the spread of epidemic disease.

#### No. 35. March 8th, 1879.

Boston—Week ended March 8th. Deaths from all causes 162. An annual ratio of 23 per 1000 of the population; 13 cases of scarlet fever, 3 deaths; 11 cases of diphtheria, 5 deaths. Enteric fever caused 3 deaths, pneumonia and bronchitis 26, phthisis 34.

Providence-Week ended March 8th. Total deaths 37. Annual ratio 19.2; scarlet fever caused 3 deaths, diphtheria 2,

acute pulmonary diseases 7, phthisis 6. New York—Week ended March 8th. Total deaths 555. Annual ratio 26.5. Diphtheria caused 15 deaths, croup 14, scarlet fever 60, acute lung diseases 105, whooping cough 17, phthisis 85.

Brooklyn-Week ended March 8th. Total deaths 229. Annual ratio 21.09; 79 cases of scarlet fever, 19 deaths; 42 cases

of diphtheria, 5 deaths; acute lung diseases 43.

Hudson Co., N. J.—Week ended March 8th. Total deaths 71. Annual ratio 19.5; scarlet fever caused 7 deaths, diphtheria 2, acute lung diseases 10.

Buffalo—Week ended March 8th. Total deaths 33.

ratio 12; scarlet fever caused 12 deaths, diphtheria 3.

Philadelphia—Week ended March 8th. Total deaths 311. Annual ratio 18.4; scarlet fever caused 10 deaths, diphtheria 9, enteric fever 7, acute lung diseases 42. "Health of city improving, pulmonary diseases diminishing."

Pittsburg—Week ended March 8th. Total deaths 60. Annual ratio 21.5; enteric fever caused 3 deaths, diphtheria 6.

Baltimore—Week ended March 8th. Total deaths 140. Annual ratio 20; diphtheria caused 5 deaths, scarlet fever 7, acute lung diseases 26.

District of Columbia-Week ended March 8th. Total deaths 77. Annual ratio 25; scarlet fever caused 4 deaths, diphthe-

ria 1, acute pulmonary diseases 28, phthisis 11.

Richmond—Week ended March 8th. Total deaths 38. Annual ratio 25; scarlet fever caused 2 deaths.

Savannah-Week ended March 7th. Total deaths 16 (4) whites, 7 colored.) Annual ratio for whole population 30.

Cleveland—Week ended March 8th. Total deaths 52. nual ratio 16.7; scarlet fever caused 2 deaths, diphtheria 4.

Louisville—Week ended March 8th. Total deaths 45. Annual ratio 14; 1 death from zymotic disease (enteric fever), 15 from acute lung diseases.

St. Louis—Week ended March 8th. Total deaths 108. Annual ratio 11; 1 death from enteric fever, 1 from diphtheria.

San Francisco—Week ended February 28th, Total deaths Annual ratio 16.4; diphtheria caused 2 deaths, acute lung diseases 12, phthisis 22.

New Orleans—Two weeks ended March 9th. Total deaths 164; annual ratio 20; malarial fevers caused 2 deaths, acute

lung diseases 31, phthisis 28.

Havana-Week ended March 8th. Yellow fever caused 2 deaths, small-pox 8.

The reported prevalence of vellow fever, or of some disease closely related to it, at various points in the Southern States, is not substantiated by any reliable evidence, but, on the contrary, careful inquiries made by health officers show that the state of the public health throughout the South during the past season, has differed from that of corresponding seasons only in the greater prevalence of acute affections of the respiratory organs.

Great Britain-Week ended February 22d. Average mortality in the 23 large towns 26 per 1000, being 21 in Edinburgh, 24 in Glasgow, 24 in London, 36 in Liverpool, 38 in Dublin, 39 in Manchester. Whooping cough prevailed with marked fatality in London, Manchester and Sheffield. Small-pox caused 82 deaths in London during the past 4 weeks, and 353 cases of the disease were under treatment in the hospitals on February Small-pox caused 16 deaths in Dublin during the week. 22d.

The Spanish Government has established quarantine for all vessels coming from Brazil, on account of the prevalence there

of yellow fever and small-pox.

Asiatic cholera has not prevailed at any of the ports of Morocco since December 1st, and clean bills of health are issued to all vessels, but at Mogador a malignant form of diarrhoa is very prevalent, and has caused great mortality among the natives, on account of their unsanitary mode of life. No accurate statement of mortality can be obtained, as the recording

of deaths is in conflict with the Mohammedan tenets.

The governor of Astrakan announces officially that the late virulent outbreak of the plague in that province, has expired within the district included in the military cordon. The number of deaths at Wetlyanka was 600. The normal population of this village was 1700, and almost every person who had not fled before becoming infected, was attacked by the disease and died. There is no announcement of the orders for the burning of the infected places having yet been carried out. The restriction of the disease to the original limits has been greatly favored by the natural isolation of the infected places, and the slight traffic existing in the district, the inhabitants but rarely leaving their villages, especially during the winter. Since the beginning of the outbreak the principal road through the province has been obstructed, and all travel has been compelled to take a wide detour through the steppes. Strict quarantine regulations have been established at all the ports of the Continent, for vessels and goods coming from the Black Sea, and at the British ports the sanitary condition of all vessels arriving thence is carefully inspected.

The sanitary condition of most of the cities of Eastern Europe is being improved, in view of the possible extension of the

plague on the advent of warm weather.

For the Surgeon General:

J. B. HAMILTON,

Surgeon U. S. Marine Hospital Service.

# EDITORIAL.

#### Adulteration.

The frequent and wide-spread accounts of the adulteration of the most common articles of food in daily use, has been boldly taken up by individuals and Boards of Health, and it is reasonable to suppose that the result of the investigation will be to lessen, to a great extent, the frauds now perpetrated on whole communities.

Since attention has been especially directed to the examination of articles of food, it is astonishing to what magnitude this nefarious work had developed, and to pass in review some of the most common articles of diet and their adulterations will not prove out of place,

Coffee is adulterated with chicory, pea-nuts and clay. The adulteration is not confined to the ground article, but the adventitious substances have been molded into the shape of the coffee bean.

Tea is made green or black by agents such as Prussian blue, indigo, or plumbago.

Butter and cheese find their best adulteration in the now widely known and much used article oleomargarine.

Vinegar is made from sulphuric acid, and as a pound of the crude acid will make a barrel of vinegar, no one should be surprised that the acid used in our salad dressing is so very cheap.

Pickles, with few exceptions, contain alum or copper. The New York State Board of Health found that on examining twelve samples of pickles, ten showed traces of copper and nine contained alum.

Syrups from glucose are extensively manufactured North, but I am assured by a dealer in this city that one-third of genuine molasses is added here. It is thus improved and largely sold.

Flour is not often adulterated in this country, but frauds are perpetrated elsewhere, and the substances used are clay, plaster of Paris and bonedust. Sugar, especially the pulverized article, is adulterated with marble dust, and it is said that mills for the manufacture of this adulteration turn out three grades of the article: soda grade, flour grade, and sugar grade.

Various other illustrations could be given, the adulteration of spices and confectionery could be named; but enough has been done to exhibit the fact that our most common articles of diet are maliciously contaminated.

The yeast powder frauds have been very ably exposed by Dr. Mott, of New York, and an article in the present number of the Journal fully discusses the injurious effect of alum.

Can it be possible that the energy of the average man is being developed especially in this day toward deluding his fellow man? The numerous shams recently exposed seem to point to this fact, or the ken of acute observers proves that fellow man is better posted than formerly, and a number of "skeletons in closets" have been exposed.

We do not know that adulterated articles are manufactured here, but we do know that they are brought here and sold to the unsuspecting. It is not necessary to show that adulterations are practiced here to have precautions taken against them.

We receive articles from all parts of the world. If arsenic is put into candies in France, red lead into curry powder from India, sulphuric acid manufactured into vinegar in New York and the West, it behoves us to be on the alert. If a gallon of syrup elsewhere has been found to contain 141 grains of oil of vitriol and 724 grains of lime should we not be on the look out for similar articles in New Orleans?

We hope to see the time when the Board of Health will be in complete accord with the city government: when both will lend all ability toward the preservation of human life. Quarantines and Yellow Fever need not be set aside that the matter be taken into serious consideration. Internal sanitary improvement can all the while be undertaken, and much needed benefits heaped upon us. But let it not be forgotten that not only the air we breathe but the food we eat should be rendered life-giving and health-producing.

# University of Louisiana.

#### ANNUAL COMMENCEMENT OF THE MEDICAL DEPARTMENT.

The forty-fifth annual commencement exercises of the medical department of the University of Louisiana, were held on the 20th ult. at the Varieties Theatre.

The degrees were conferred by Hon. Randall Hunt, president of the University. Mr. Hunt alluded to the field of labor which the graduates were about to enter, their hopes of success in the profession which they had chosen, and the necessity of energy and application.

The salutatory address was delivered by Professor Samuel Logan.

The diplomas were then distributed to each of the graduates by Dr. Richardson, Dean of the Faculty.

The valedictory address was delivered by Joe. S. Jones, of Louisiana, one of the graduates. The address was very well delivered, and warmly received by the audience. The speaker touched upon the progress of medicine, the difficulties which the graduates expected to encounter in the new life they were about to enter, and the recollections of their course of study at the University, closing with a very neat tribute to the professors.

The names of the graduates are as follows:

# Degree of Doctor of Medicine.

Paul D. Beraud, La. W. Childs, La. Alex. G. Coleman, Ark. Jose E. Collado, Cuba. Thos. S. Dabney, La. Louis T. Donaldson, La. George L. Dunlap, Ky. Hugo A. Gabert, La. John B. C. Gazzo, La. Arthur Guilbeau, La. Richard F. Harrell, La. Thos. J. Harrison, La. George Holman, Texas. Joe. S. Jones, La. Jas, T. Kilpatrick, Tex. Robt. C. McCullough, La.

P. P. McCutchon, Jr., La. G. W. M. Martin, La. Joe Moody, Tex. Abram H. Moss, La. Fred. W. Parham, La. Oliver B. Quinn, Miss. Sam'l W. Rawlins, La. F. G. Renshaw, Fla. R. Sauvage, La. Chas. E. Schuppert, La. J. A. Sneed, Texas. C. P. Tobin, Ark. Wm. D. Vance, La. Wm. L. Van Horn, La. J. N. Williamson, Tex. J. A. Wright, Iowa.

## Degree of Master of Pharmacy.

Wm. H. Aikman, La.
John Behrend, La.
Henry Berlin, La.
Domingo Bornio, La.
Michael T. Breslin, La.
Chas. Gehlback, La.
Wm. Greve, La.
Julius Koch, La.
Basilide Lavigne, La.

George McNulty, La.
Jacob M. Malter, La.
Abram H, Moss, La.
J. A. C. Neumeyer, La.
Robt. Thuem, La.
Wm. L. Van Horn, La.
Chas. Wright, La.
Simon Courege, La.
J. N. Williamson, Texas.

#### State Medical Associations.

The following State Medical Associations will convene at the times and places specified:

Georgia State Medical Association, at Rome, Ga., third Wednesday in April, 1879.

Louisiana State Medical Association meets at New Orleans, second Wednesday in April, 1879.

Texas State Medical Association meets at Sherman, first Tuesday in April, 1879.

Mississippi State Medical Association meets at Aberdeen on the 2d of April, 1879.

Alabama State Medical Association meets at Selma, second Monday in April, 1879.

Arkansas State Medical Association meets at Little Rock, first Wednesday in May, 1879.

# CORRESPONDENCE.

# Messrs. Editors:

In the annals of our profession in Boston it is probable that nothing has occurred for many years which has rejoiced the medical heart to such a degree, as has the completion and dedication of our Medical Library Association building. So far as the library per se is concerned, it had attained a vigorous

existence some time before the inauguration of its present home. But such has been the rapidity of its increase and development, that one might almost say it was born grown up. Indeed, I think I may safely say that its history is wholly without parallel. Kindly bear in mind that three years ago, last August, it did not exist. At that time there was a collection of some 10,000 volumes of medical works in our public library. But, though the list of medical journals was quite large, the facilities for consulting these books were by no means what medical men needed. The same may be said of the 5000 volumes in the medical department of the Athenaum Library; moreover, its list of medical periodicals was lean and insufficient, At the Massachusetts General Hospital was the Treadwell Library numbering about 3500 volumes, especially rich in surgery and kept alive by a permanent fund, a portion of which is devoted to subscription for thirty-two journals. The profession at large could use these books by making written application, but you know how little outside medical men would consult a library thus situated. Harvard University had a medical library of about 3800 volumes, hardly any of which were modern, and no medical journals. The Medical School of Harvard had a collection of medical works, eighteen hundred or thereabouts, consisting almost exclusively of old text-books and sets of journals, the latter comprising the best German, French and English periodicals relating to anatomy, physiology and microscopy. It was designed for and was used chiefly by the students of the school. The Boston Society of Natural History had a choice library of 1200 volumes. The Boston Society for Medical Observation had a library of 900 volumes; the Boston Society for Medical Improvement about half as many. The two latter collections have since been given into the keeping of the Medical Library Association. Such then being the condition of things, it became apparent to certain enterprising medical gentlemen, and notably Dr. James R. Chadwick, (librarian of the new association, and to whose untiring efforts its wonderful success is mainly due) that a new and independent library and a convenient reading room for medical men, were absolute needs. The first regular meeting was not called until August,

1875. It was then and there that organization was effected and officers chosen. The upward rush of the new association was so rapid that it entered upon its second year October, 1876, with one hundred and thirty members, a journal list of one hundred and twenty periodicals, and a library of 4500 volumes and 3000 pamphlets. It was likewise tree from debt. For a twelve months' bantling this was something to be proud of. During the year 1876-77, the number of volumes was increased by 1978. By this time the little giant had begun to outgrow its quarters, and a house was purchased in a central and convenient location. It was remodelled on the lower story, an L being pushed out into the rear, and a beautiful hall constructed, which is not only a pleasure in itself, but combines every modern suggestion in the way of heat, light and ventilation, and gives one-third more accommodation than the old hall which, three flights from the street, low-studded, stuffy and inconvenient, for three years had been used by our medical societies.

As a matter of course most of the latter almost at once migrated to the new hall, and all probably will follow. The second story is devoted to reading and journal rooms which are very charming. The main library is in the hall and climbs from floor to ceiling, the upper tiers being reached by circular stairways leading into graceful galleries, which augment the beauty of the room. The third floor is used by the resident Assistant Librarian, Dr. Brigham, and his family, and likewise contains extra rooms for committees.

The inauguration exercises held on 3d December, 1876, were made memorable by the eminently brilliant address of the President, Dr. Oliver Wendell Holmes, and by remarks of distinguished gentlemen of Boston and other cities.

The library now contains 10,000 volumes and 5000 pamphlets, and, although little over three years of age, occupies the fourth, perhaps the third, rank among the medical libraries of America, but, before long, under the energetic, efficient librarian undoubtedly will reach a higher place.

Now that a centrally located and attractive medical rendezvous has been provided for our physicians, it is to be hoped that more sociability will be cultivated among them. There is too little of good-fellowship association here among the doctors. A broader social tone is a serious need. If developed, its effect in coming years would be most beneficial. One very happy idea in connection with the Library Association is the formation of duplicate libraries which will be open to the use of physicians throughout the State, the intention being to institute branch libraries in other cities. The birth and growth of this association has been so rapid, so quiet, apparently so easy, that the example it offers should be suggestive to medical men elsewhere. But it is the result of remarkable and untiring energy, together with marked executive ability. It may, however, be hoped that similar intensity of push and earnestness exists in other cities.

Development when fostered by ability and good judgment is naturally rapid. We can offer another example of this in the remarkably improved quality of the Boston Mediical and Surgical Journal. Its greatly increased vitality and attractiveness dates from the day when the editorship was placed in the sole charge of Dr. J. Collins Warren. The journal is almost venerable, having just passed its fifty-first birthday. In this country it has but one competitor which antedates it in age, the American Journal of the Medical Sciences. But the last named is a quarterly, and its first number was issued only three months before the original edition of the Boston Medical and Surgical Journal. The latter has always been a weekly, has passed through trials and tribulations; has been brought low under the effects of progressive pernicious anæmia and cardiac weakness, yet has survived all, and to-day is a strong, full-blooded periodical, representative not only of local but of national medical matters; giving clinical lectures prepared by distinguished men in leading citles; continuing its valuable reports on progessive medicine, improving the quality of its editorial matter, having correspondents everywhere and never (or hardly ever) using anything, outside of mere notes, which has been used before elsewhere. The standard of the editor has not yet been reached, and the journal will continue to improve.

There is another matter under discussion here concerning

which there exist most dissimilar opinions. You may have heard that strong efforts have been made to secure the entrance of women into our medical school. A grant of money (\$50,000 I believe) is contingent upon their admission. Last fall Alexander Agassiz, on behalf of a committee, distributed circulars among regular medical men, asking their reply to certain questions which virtually were: "Are you in favor of admitting women to the medical classes of Harvard University? If so, is it your opinion that teaching should be mixed (as to sexes)? If not, designate such subjects as should be taught to one sex alone and such others as may be taught to both sexes simultaneously?" The average reply was in favor of non-admission of women. How can it be otherwise? As a class, physicians of broad tendencies probably do not object to the study of medicine by women. If women wish to become physicians, let them study medicine and welcome. In many cases young women probably do not realize what the life of a physician is, but that matter is not in point. If they wish to study medicine, let them do so. But when it comes to co-education, the man of right instinct is as firm as a rock. It is simply impossible for him to see in it anything normal. Men and women studying medicine, in all its branches, together? Impossible! What would become of that fine feeling toward womanhood which exists in the breast of every true man, if he saw women ready to stand by his side through all the complexities of a medical student's experience? A medical co-education is abnormal and unnatural. The effect of it upon the quality of that exquisite reserve which exists between men and women in the every-day relations of life, no matter how intimate their acquaintance, would be simply ruinous, and, strange as it may seem, while apparently ignored by women who wish to study with men, this is recognized by women who are vitally interested in this question, but yet do not favor co-education of sexes in medicine. I know of many women who are intellectual and broad minded, women who are very earnest in the advancement of their sex, and yet who, when they were recently urged to sign a petition for the admission of female medical students to the city hospital clinics on equal terms with men, refused to sign. And it seems to me that this refusal—though they may

not have realized it—was based, not so much upon careful judgment, as upon womanly instinct, and so it should have been. Far be it from all generous minds to close the doors upon women who wish a medical education, but let them have their own schools. Those of us who have been abroad or who happened to be in Philadelphia when women were admitted to the Pennsylvania Hospital Clinics, know the mental effect which is produced by the presence of women at a surgical clinic, skin clinic, obstetric clinic, etc., intended for men alone. I do not remember to have seen it expressed in print, but I do know that the involuntary feeling of a man toward a woman who can sit by his side all unmoved during such clinics as I have named, is one of simple contempt, and this feeling is stronger according as his native reverence for true, sweet and refined womanhood is stronger and deeper.

I cannot believe that women will gain admittance to the City Hospital, unless separate clinics be arranged, but the homeopaths have been admitted to the clinics, much to the disgust of some of the lecturers. There has been a warm disturbance in the homeopathic school in this city. It arose from the dismissal of a Dr. Jernegan, who it seems was a favorite of the students, and consequently the latter protested. The dean of the school then attempted pacification by informing the students that Dr. J. had been dismissed, because he used remedies which were not homeopathic. Dr. J. at once replied in the public prints, and the tone of his remarks very naturally was "sequitur yourself; my medicines are as homeopathic as yours." This all seems a huge joke, because we cannot forget that when the homeopaths wrote their protest on being dismissed from the Massachusetts Medical Society, they included a clause in which they "claimed the right to use any medicine in any dose they chose." As this protest was drawn up by the aid of some of the very men who have dismissed poor Jernegan, the general inference must be that even homeopaths are inconsistent.

I need not tell you how much we regret the deaths of Prof. J. B. S. Jackson and Prof. Jacob Bigelow. Both were famous men. Both professors in the Harvard school for many years. Both had grown old in the harness which they had worn so long and so faithfully. Dr. Bigelow was identified with the

early history of the Harvard school and remained in the active possession of his chair forty years as Professor of Materia Medica. Dr. Jackson was appointed Professor of Pathology, in 1846, and was pursuing his duties when death took him. He will long be remembered as the curator of our admirable Warren Museum, to which he gave the best years of his life.

H.O.

Boston, February 19th, 1879.

#### REVIEWS AND BOOK NOTICES.

Clinical Lectures on Diseases Peculiar to Women. By Lombe Atthill, M. D., University of Dublin; Master of the Rotunda Hospital, Dublin; Consulting Obstetric Sugeon to the Adelade Hospital; Ex-President of the Dublin Obstetrical society, etc., etc. Fifth Edition. Revised and Enlarged, with illustrations. Philadelphia: Lindsay and Blakiston, 1879. New Orleans: Armand Hawkins, 199½ Canal street. pp. 342.

This work is evidently the production of a man of much practical skill in the treatment of the diseases under consideration. Written in the form of lectures he presents the different affections in a vigorous style, and he is perfectly free from all controversial points which tend to confuse the student. His descriptions of disease are plain, concise and strong, his treatment minutely practical, and the clinical studies presented are to the point. No time is wasted, and from one disease to another he rapidly and methodically goes, and the reader will be satisfied that the time spent in studying this work is profitable.

As a work for the country practitioner we highly recommend it. Being engaged in laborious practice they have not the time to spend in reading the larger works on the subject, and, even though time was no object, we doubt whether more voluminous treatises afford so much practical information. Archives of Medicine, A Bi-Monthly Journal, Edited by E. C. Seguin, M. D. pp. 112. New York: G. P. Putnam's Sons. Vol. I, No. 1, February, 1879.

The original articles of this new aspirant for the favor of the medical public are as follows: (1) A new Method of removing Interstitial and Submucous Fibroids of the Uterus; illustrated by cases. By Prot. T. G. Thomas, M. D.; (2) Provisional Report on the Effects of Quinine upon the Cerebral Circulation. By Mary Putnam Jacobi, M. D.; (3) The Aid which Medical Diagnosis receives from recent Discoveries in Microscopy. By C. Heitzman, M. D.; (4) Elementary Lessons in Electricity, I. By A. F. Delafield, A. B. An editorial, by Dr. Seguin, follows, on The Present Aspect of the Question of Tetanoid Paraplegia.

The above articles are of more than usual merit, and if the standard of the opening number is maintained, this journal will not fail to make its mark.

S. S. H.

Index Medicus, A Monthly Classified Record of the Current Medical Literature of the World, Compiled Under the Supervision of Dr. John S. Billings, Surgeon U. S. Army, and Dr. Robert Fletcher, M. R. C. S., England. Royal 8vo., pp. 72, Vol. I, No. 1, January 31, 1879. Subscription price, \$3 a year. New York: F. Leypold, 37 Park Row.

A list of Periodicals and Transactions, covering 25 pages, is followed by an Index of the various branches relating to medicine, arranged under each head alphabetically, according to names of authors.

This publication supplies a long felt want, and will prove quite acceptable to those who write on medical subjects and those who wish to be well informed in their profession.

S. S. H.

Conclusions of the Board of Experts Authorized by Congress to Investigate the Yellow Fever Epidemic of 1878, Being in Reply to Questions of the Committees of the Senate and House of Representatives of the Congress of the United States, upon the Subject of Epidemic Diseases: Pp. 45, Washington, D. C., 1879.

The formation of a joint committee of both Houses of Congress, for the purpose of investigating the late epidemic of

yellow fever, and to the end of preventing future outbreaks, is a matter of familiar history, and needs no notice here. The questions proposed by this committee for the consideration of the Board of Medical Experts selected to aid in the work, are the following:

"1st. The origin, cause, and distinctive features of yellow fever and cholera; whether or not they are indigenous to any part of the United States; if not, how they are brought to this country, and the localities from which they come; and if found to be indigenous and also imported, in what proportion and to what extent has their presence in the United States been owing to importation.

"2d. The season of the year and atmospheric conditions,

when and in which they may be propagated.

"3d. The means to be adopted by which their introduction into this country from other localities may be prevented.

"4th. The method of preventing its propagation and spread,

when once introduced in any part of the United States.

"5th. The number of deaths that have occurred in the United States during the present year; the expenditure and the injury to business resulting therefrom."

The answers to the above questions are embodied in 90 separate propositions, expressed with such precision and conciseness that we should like to present them all; but want of space forbids, and it would not be easy to select any as being of superior importance or excellence. It is proper to remark that the whole Board of Experts, with the exception of Dr. Falligant, of Savannah, concurred in the view previously taken by the Yellow Fever Commission, namely: That this disease originated in the West Indies, and that it has never become actually domesticated in our country. This is a question of the highest importance, on account of its bearing upon the use of quarantine as a preventive measure.

Having adopted the theory of the exotic character of yellow fever, the experts presented an outline of a system of quarantine under the supervision of the national government; of which the following quotation affords a glance:

"The object aimed at, is to present the outlines of a system of quarantine, which may afford the greatest attainable degree of protection against the introduction and spread of infectious epidemic diseases; and at the same time inflict only a minimum of injury and inconvenience upon commerce. Two classes

of medical officers are suggested: First, Medical officers of health to serve in foreign ports from which we receive importations of yellow fever and cholera. Secondly, Medical officers of health to have charge of quarantine stations, and to supervise inter-state travel and traffic from infected places in times of epidemic.

"The two classes of medical officers suggested are considered indispensable to any method of quarantine which does not involve complete suspension of intercourse with infected ports. The Board regards it to be especially important that the selection of these officers should be made from men skilled in medi-

cine and sanitary science. \* \* \*

"The carrying into effect of an efficient system of quarantine contemplates a central authority or Health Department. It is considered important that such a department should be so organized as to gain strength from, and give strength to, State and municipal health organizations. In view of the diversity of circumstances attending vessels arriving from infected ports, the difference exhibited by different ports in respect to their liability to infection; and the difference in such liability in the same port at different seasons and under varying circumstances; it is desirable that matters of detail should not be fixed by law, but should be left to regulations to be prepared under proper restrictions. The great interests which such regulations would guard, and the necessity for changes in them from time to time, as increased experience or knowledge, or other causes, might indicate, warrant the recommendation for the establishment of an advisory Board of Health, to be composed of men eminent in sanitary matters, who, together with the chief officer of the Health Department, shall frame all needful rules and regulations for carrying into effect, subject to the approval of the President, such national public health laws as may be enacted."

Want of space restricts us to the narrowest limits in noticing a work of such interest to the whole Southwest, and to New Orleans in particular. The propositions have been carefully considered and are advanced with due caution and reserve. It will not add to their force to remark that the conclusions adopted respecting the nature of the two diseases considered (yellow fever and cholera), are almost precisely the same which we had previously reached. If any fault-finder should say that this only illustrates the tendency of great minds to run in the same channel, there is no help for the complaint.

But, as a slight variation from entire concurrence, we would call attention to proposition (7):

"(7.) In the dissemination of yellow fever, atmospheric air

is the usual medium through which the infection is received

into the human system.

"We know of no instance, either from our own observation or from the published records of yellow fever, in which it has been established that the disease has been carried to any considerable distance by atmospheric currents, or by any modes or vehicles of conveyance other than those connected with human traffic and travel."

There seems to us to exist an incongruity between the first and second paragraphs, else we are unable to apprehend the meaning of atmospheric air as a medium of infection. The infection is certainly independent of air currents, and spreads spontaneously as well against the wind as with it.

An appendix contains several tables, giving various particulars of the visitations of the principal localities reached by the fever in 1878, with the reservation that they are not considered as more than an approximation to correctness. The pamphlet closes with several pages of notes supplementary to the tables.

S. S. H.

Physiology: Preliminary Course Lectures. By James T. Whittaker, M. A., M. D., Prof. Physiology and Clinical Medicine in Medical College of Ohio, etc. On the Influence of Physiology upon Practice; on the Conservation of Force; on the Origin of Life and the Evolution of its Forms; and on Protoplasm, Bone, Muscle, Nerve and Blood. Illustrated. 12 mo., pp. 288. Cincinnati: Chancy R. Murray. 1879.

The title expresses for whom the work was originally prepared, and also the subjects treated. These subjects form a very appropriate introduction to the systematic study of human physiology by students of medicine, and they are treated in a manner calculated to interest and instruct.

The publication of these lectures in book form, in obedience to urgent request of their hearers, will prove a favor not only to the medical profession, but to the intelligent and reading portion of the public at large. The subjects are of interest to all educated men, and the ideas conveyed are quite in accord with the conclusions of the most advanced scientists of our day, without visionary speculation into the realm of the mysterious. We find, therefore, that the author accepts the doctrine of Evolution without reserve, and, moreover, accepts its logical

sequence—the spontaneous generation of organic forms from inanimate matter as an actual and present occurrence.

The book has a suitable index, and its mechanical execution is altogether creditable.

S. S. H.

A Practical Manual of the Diseases of Children, with a Formulary. By Edward Ellis, M. D., Late Physician to the Victoria Hospital for Sick Children, etc. Third edition, 8vo.; pp. 213. New York: Wm. Wood & Co. 1879.

This is the second monthly publication of the cheap series issued by the above-named house, at the remarkably low price of one dollar a volume. The work consists of ten chapters, as follows: I. General Observations on Management and Diet; II. General Diseases; III. Skin Diseases; IV. Congenital Affections and Diseases of the New-Born; V. Fevers (chiefly eruptive); VI. Diseases of the Brain and Nervous System; VII. Diseases of the Air Passages and Thoracic Organs; VIII. Diseases of the Food Passages and Abdominal Organs; IX. General Therapeutics and Formulary; X. Dietary.

From the examination which we have been able to make of the book, we believe that it will be a safe guide to the practitioner; while the large number of subjects considered, together with the moderate size of the volume, will render it highly convenient. If the succeeding numbers of the series keep the promise held out by the first two, the publishers will confer a material and very acceptable favor on the medical public.

S. S. H.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland, Thirtieth Annual Session, April, 1878. pp. 208.

The President's opening address, delivered by Prof. A. B. Arnold, M. D., gives an excellent description of Homœopathy as a system of Medicine.

Dr. S. C. Chew contributes an address commemorative of Prof. Nathan R. Smith.

The report of Section on Surgery was partially made by Prof. Alan P. Smith, son of the above. He describes his method of operating in lithotomy, presenting a total of 52

cases, all successful. This extraordinary result he attributes largely to the use of the lithotome devised by his distinguished father, which is illustrated by wood cuts. Among these cases was a man with double penis and bladder, the left bladder containing the calculus.

Prof. Thos. R. Brown, M. D., furnishes a valuable paper on stricture of the urethra. His method of operation is by internal urethrotomy, in cases not adapted to gradual dilatation, and his experience extends to more than 100 cases, with no deaths.

Dr. J. E. Atkinson reports for the section on Materia Medica and Chemistry. He speaks favorably of the use of salicylic acid, salicine and sodium salicylate in acute rheumatism, and refers to three reported cases of hydrophobia, which recovered under the subcutaneous use of curara. He also makes a strong plea for the adoption of the metric system in medicine and pharmacy.

Prof. F. Donaldson, M. D., in a review of the subject of Spontaneous Generation, concludes that "We are forced to the conclusion that life never appears independently of antecedent life."

In a paper on General Paralysis of the Insane, Dr. J. D. Thompson states: "In Great Britain, general paralysis is known to have existed 35 years before it appeared in this country. It was not known in the United States until 1843, at which date it appeared in our Eastern States, since which date it has gradually extended and become well established in the Eastern and Middle States, while in our Southern and Western States it is still extremely rare or entirely unknown, and Dr. Macdonald proves quite conclusively that these statements are not the result of non-recognition, but that until the dates named, the disease really did not exist."

Dr. John Van Bibber, on The New Treatment for Chorea, claims extraordinary results for the plan of confinement to bed in a darkened room, along with massage and passive motion to prevent muscular atrophy.

These papers form a valuable contribution to medical literature, and many of them deserve wider circulation than will be furnished in their present shape.

S. S. H.

Transactions of the Twenty-Fifth Annual Meeting of the Medical Society of the State of North Carolina, held at Goldsborough, May, 1878. pp. 98.

The principal papers in this volume are two essays on Diphtheria, which add little or nothing to what has previously been known.

The valedictory address of the President, Dr. Robert L. Payne, was upon the influences which act upon the Child before Birth. He has accumulated a large number of instances corroborative of his thesis, which will be found curious, if not convincing.

S. S. H.

Transactions of the Texas State Medical Association, Tenth Annual Session, 1878. pp. 202.

The address of the President, Dr. W. D. Kelly, is rather too discursive for analysis, though on the whole interesting.

Dr. J. H. Sears, in the report on Climatology and Epidemics, discusses briefly the respective claims of the Septic and Germ hypotheses, in regard to the materies morbi of zymotic complaints. His inclination is toward the former.

The Report of Section on State Medicine and Public Hygiene is by Dr. A. R. Kilpatrick, and occupies fifty pages. A variety of interesting topics is treated by Dr. K., and some of his researches, through a list of questions sent to physicians throughout the State, are valuable. The condition of the colored people since emancipation in respect to health, longevity and fecundity, he finds to be less favorable than previously, and he attributes the deterioration to the absence of authority and care for their physical and moral welfare formerly exercised by their masters.

Dr. B. E. Hadra, in Remarks upon the Hepatic Complications of Dysentery as it occurs in the Climate of Texas, makes the remarkable statement, that the form of dysentery prevailing in Texas is almost exclusively this hepatic kind. "There is hardly a single case without inflammatory enlargement of the liver; and, of course, a good many cases, where abscesses form as a most unhappy result of this inflammation."

S. S. H.

[Reviews of Transactions of other Medical Societies unavoidably crowded out of this issue.]

# METEOROLOGICAL REPORT FOR FEBRUARY, 1879.

Day of Morth.	Maximum. Minimum.		Range.	Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	67 52 57 67 70 61 53 60 59 67 71 73 60 57 72 75 58 62 66 70 66 69 74 64 58	52 40 40 49 60 50 45 44 43 46 54 50 58 48 38 49 58 45 38 43 43 45 51 48 51 48 51 48 51 48 51 51 51 51 51 51 51 51 51 51 51 51 51	15 12 17 18 10 11 8 16 16 21 13 21 15 12 19 23 17 13 20 19 23 14 12 24 23 16 18 20 21 21 21 22 23 24 25 26 27 28 29 20 20 20 20 20 20 20 20 20 20	30.213 30.392 30.258 29.942 29.872 30.016 30.211 30.315 30.325 30.106 30.006 30.052 30.045 30.242 30.182 29.957 29.962 30.210 30.323 30.396 30.274 30.020 30.013 30.004 29.869 30.132 30.333 30.384	45.3 35.7 48.7 81.0 70.3 81.7 68.0 46.7 55.0 70.3 74.7 70.3 69.3 45.3 50.3 82.3 68.7 63.3 57.0 54.3 61.0 77.0 82.3 65.7 69.0 51.7 30.3 65.0	.02 .00 .00 .03 .03 .41 .09 .00 .00 .00 .00 .00 .00 .00 .00 .00
Mean	63.89	47.25	16.64	30.144	62.1	Total: 2.12

## MORTALITY IN NEW ORLEANS FROM FEBRUARY 24, 1879, TO MARCH 23, 1879, INCLUSIVE.

Week Ending.		Yellow Fever.	Malarial Fever.	Consump-	Small- pox.	Pneu- monia.	Total Mortality.
February	2	0	0	12	0	1	77
66	9	0	3	16	0	11	87
66 .	16	0	1	17	0	10	84
66	23.	0	4	25	Ø	8	37
Totals		0	8	70	0	30	285

# NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

MAY, 1879.

# ORIGINAL COMMUNICATIONS.

Yellow Fever Epidemic of 1878 in New Orleans.

By JOSEPH JONES, M.D.,

Professor of Chemistry and Clinical Medicine, Medical Department, University of Louisiana, Visiting Physician of Charity Hospital, New Orleans.

(Extract from Clinical Lecture, Delivered in the Amphitheatre of the Charity Hospital, January 15th, 1879. Reported for the New Orleans Medical and Surgical Journal.)

#### LECTURE II.

(Concluded from April Number.)

CASES ILLUSTRATING THE CHARACTER OF THE DISEASE IN THE HOUSES IN WHICH THE ORGANIC CONSTITUENTS OF THE AIR WERE CONDENSED, BY THEIR PASSAGE THROUGH ICE-COLD WATER.

3d Series of Cases; Examination of Air of residence 495 St. Charles street, corner of St. Andrew street.

Case 199. Miss M. J., age 11, native of Tennessee, has resided in New Orleans 9 years; attacked with yellow fever September 16th. Well marked case. Recovered.

Case 200. H. P. J., male, age 5 years and 6 months, native of New Orleans; attacked with pain in the head and back and fever, September 19th, 1878, at 7 o'clock, A. M. 8 o'clock, A. M., pulse 128, temperature of axilla 101° F. B. hydrargyri subchloridi, quiniæ sulph, aa grs. iv, administer at once. The little patient vomited the first powder. The dose was repeated

V



in 20 minutes and retained. Three hours afterwards adminstered a tablespoonful of castor oil in the form of an emulsion, with sugar and gum acacciæ. Stomach rejected the emulsion. In 20 minutes after the vomiting a tablespoonful of pure castor oil was administered and retained. 12 o'clock, M., pulse 120, temperature of axilla 101.8°. 4 o'clock, P. M., pulse 124, temperature 100.6°. Bowels have been moved. Barley water and orange leaf tea. Ordered the back, belly and extremities to be rubbed at regular intervals with the following: B. Qniniæ sulph. 3i, linimenti saponis, olei olivæ aa f3iij, mix: use as a liniment every 3 or 4 hours.

September 20th, 9 o'clock, A. M., pulse 124, temperature 101°. Continue orange leaf tea, barley water and frictions with quinine liniment, cold cloths, sedative water and bay rum to head. As a drink cool *Apollinaris* water. The pulse and temperature did not vary except within very narrow limits during

the day.

September 21st, 9 o'clock, A. M., pulse 114, temperature of axilla 100°. Pulse very feeble. Patient very restless. Tongue red at tip and edges and heavily coated in centre. Gums red, breath foul, body exhales a foul smell. About two drachms of quinine have been rubbed upon the surface in the form of liniment.

Two grains of quinine were also administered twice during the course of the day. Very restless and apparently very feeble. Continue orange leaf tea, Apollinaris water, with small quan-

tities of champagne, also barley water.

22d, 9, A. M. Pulse 104, temperature 100.8°, very restless, lower extremities in perpetual motion, the muscles quiver incessantly, smell of body and breath very foul, it fills the rooms upon the second floor of the house and also can be perceived in the rooms below. Administered a milk punch prepared with the best brandy that could be obtained. I was indebted to Dr. Joseph T. Scott for a bottle of superior old brandy. The milk punch was retained and appeared to be beneficial and was repeated at regular intervals, together with small quantities of beef tea.

23d, 9, A. M. Pulse 90; temperature 101.2°; P. M, pulse 90,

temperature 101.2°, continue milk punch and beef tea.

24th, 8, A. M. Pulse 95, temperature 100.6°; 8, P. M., pulse 92, temperature 99°; urine scant and cloudy: mustard plaster over loins.

25th. Pulse 84, temperature 98.8°; extremities feel quite cool. Up to the present time has been very restless, with incessant motions and tremblings of the muscles of the thighs and legs, but there has been no delirium and the milk punch and beef tea has been retained and appeared to accomplish much good. Restlessness disappearing, decided improvement in all the symptoms, urine more abundant and clear. 8, P. M., pulse 82, temperature 98°.

26th, 8, A. M. Pulse 86. temperature 98.6°; continued to

improve and recovered.

Case 204. C. C. J., male, age 13, native of Georgia, in New Orleans 10 years, 495 St. Charles street. Attacked September 22d, at 12, M., with chill, pain in head and back followed by fever. Had been feeling badly for several days, preceding fever, and had suffered with pain in legs and was fatigued by slight exertion, as going up stairs. The appetite, however, had been good. As the patient had eaten a hearty breakfast, I administered immediately after the appearance of the fever an emetic of ipecac and warm water; the food eaten at breakfast was expelled undigested. After the vomiting had ceased, the following was administered: Hydrargyri subchloridi (calomel), quiniæ sulph, aa. grains vi. The first powder was rejected; it was repeated in twenty minutes and retained.

3 o'clock, P. M. Pulse 138, temperature under tongue 103.4°. At this time I administered one and a half fluid ounces of castor oil. At 5 o'clock, P. M., the calomel and castor oil acted freely, producing three very copious actions of foul stinking

black excrements.

8 o'clock, P. M. After the action of the purgative; pulse 122, temperature 101.2°. The action of the purgatives and quinine have been attended with a salutary reduction of the pulse and of the temperature, the former losing 16 beats per minute, and the latter 2°.2 F.

R sulpho, carbolate of sodium 3i., divide into six powders,

one powder in orange leaf tea every four hours.

Requiniæ sulph. 3ij., linimenti saponis, olei olivæ aa f. 3iij., use as a linament to extremities and back every four hours. Secured a good nurse and placed him in a well ventilated and quiet room. As in the preceding cases, the body was well covered with a blanket. Apollinaris water and barley water administered at regular intervals. Skin moist, tongue red at tip and edges and coated in centre. Complains of severe pain in forehead and in back and legs; cold cloths, saturated with sedative water and bay rum to forehead.

23d, 8 o'clock, A. M. Pulse 109, temperature 102.2°; 9 o'clock, P. M., pulse 110, temperature 100.8°. 23d, 10 o'clock, P. M.

Pulse 100, temperature 100.2°.

24th, 8 o'clock, A. M. Pulse 94, temperature 99.5°; 8 o'clock, P. M., pulse 70, temperature 99.6°.

25th, 8 o'clock, A. M. Pulse 79, temperature 99.80; 8 o'clock,

P. M., pulse 75, temperature 98.4°.

26th, 8 o'clock, A. M. Pulse 75, temperature 98.8°. Continued to improve. Recovered. During the first three days the patient took only barley water as a nutriment, on the fourth day chicken and beef tea and champagne.

L. M. J., female; age, 2 years; native of New Orleans; 495 St. Charles street. On the 4th of October, at 9, A. M., I was amusing this little child with some pet rabbits. She appeared to be cheerful and well. The nurse carried her into

the house, and when I entered the room about fifteen minutes later, found the little one in a restless, distressed state and with fever. 9:15 o'clock, A. M., pulse 180, temperature 103° F. Administered at once two grains each of calomel and quinine, and followed with half a fluid ounce of castor oil in three hours. 8 o'clock, P. M., pulse 102.2°, fever still continues. During the night gave ½ drop of Norwood's tincture of veratrum viridi every 3 hours; also 5 grains of the sulpho. carbolate of sodium every 4 hours in orange leaf tea. Feverish, fretful and restless during the night.

Oct. 5th, 8 o'clock, A. M., pulse 138, temperature of axılla 100.8°, continues fretful, discontinued tincture of veratrum viride, and ordered quinine linament as follows: B. quiniæ sulph. 3i, linimenti saponis, olei olivae aa f 3iij. Mix, use locally as a liniment to extremities. P. M., pulse 140, temperature 100.2°. This little patient continued to improve and

recovered.

Three other cases of yellow fever occurred in my residence, 395 St. Charles street, subsequently, but the experiments upon the atmosphere of the house were made before the occurrence of the four cases just recorded, and also during their progress. About 1,900,000 cubic centimetres of air of the lower rooms (only occupied during the day) and of the sleeping apartments, both before and after the prevalence of the fever, were subjected to the influence of artificial cold. As in all the preceding and subsequent experiments, the purest ice was employed. Upon careful examination and chemical analysis of the two varieties of ice used in New Orleans, the Boston ice and the Louisiana ice, the latter being manufactured by artificial cold in the city from distilled water, I found them to be absolutely free from organic impurities, and whilst the artificially prepared ice was entirely free from all saline mattersthe Northern or Boston ice contained only traces of the chlorides and sulphates.

The experiments conducted at 495 St. Charles street yielded results essentially similar to those obtained at 363 Magazine and 46 South Villere streets. Thus the water, after the passage of the air of the lower rooms, which were used only as sitting and reading apartments, presented a clear and transparent and colorless appearance with only a few sporules; that obtained from the rooms during the prevalence of the fever presented a milky and turbid appearance and contained numerous spores of various sizes, the most minute requiring the highest powers for their de-

tection, also minute particles of vibrating matter, which could not be resolved into specific shapes under the highest powers. As in the previous examinations, the particles of cotton wool and of wool originally floating in the air and condensed in the cold water, contained vast numbers of these spores and minute particles, adhering to the fibres and entangled in the meshes. It is but just to conceive that the clothing and bedding of the patient become more or less permeated by these minute particles and spores. We have thus a practical demonstration of the possibility of the contamination of the clothing of patients by matter in a minute state of subdivision, a portion of which, as the sporules, are capable of reproduction.

After standing some time, I observed a few cells chlorococum, Protoccus, and the resting-spores of several of the unicellular algæ. This locality, as that at 47 South Villere, may be regarded as favorable to the development of the algæ, as the gutters are wide, deep and simply excavated in the earth at the sides of the street. Both St. Charles and St. Andrew streets are in this locality unpaved, and during periods of continuous rains, the streets become almost a quagmire of tenacious mud.

In these deep "mud gutters" numerous algæ flourish, and also numerous insects are developed, and the congo-snake (Amphiuma Means) finds a congenial home and attains a large size.

I will state that in the present examination, as well as in the preceding experiments at 363 Magazine street and 47 South Villere streets, and in the subsequent observations at the corner of Carondelet and Milan streets, careful drawings of the microscopical objects were executed and preserved for comparison. The microscopical objects themselves have also been carefully viewed in my laboratory by three members of the Board of Health of the State of Louisiana, and by my friend and colleague, Professor Elliott, and by Professor R. S. McCulloch, of Baton Rouge. No difference of opinion existed as to the nature of the objects obtained from the yellow fever atmosphere.

It is to be hoped that in the future similar observations will be made, at various times and in various portions of our country; not merely during yellow fever epidemics, but also during periods of health and of epidemic visitation by diverse diseases. 4th Group of Cases in the House at the corner of Milan and Carondelet Street. Microscopical and Chemical Examination of the Air. Experiments on Animals.

Case 217. Theresa D., age 8 years, native of New Orleans. attacked with fever September 22d, 1878. I visited the patient for the first time, September 25th, P. M., pulse 145, temperature 103°, respiration slow, full sighing and embarrassed, oftimes this child did not breathe more than 4 times per minute, intellect clear, nausea and vomiting, can retain but little on stomach.

September 26th, temperature of axilla 105.5°, pulse 150, great capillary congestion, incessant nausea and vomiting, great difficulty of respiration, respires spasmodically, as if by the will with a deep drawn sigh, respiration about 4 per minnte. Administered 5 grains of sulpho-carbolate of sodium and 5 grains of quinine in two fluid ounces of beaf tea by enema every 3 hours, iced champagne in small quantities, fragments of ice and Apollinaris water internally. The respiration indicates great disturbance at the base of the brain in the region of the medulla oblougata; there is, however, no delirium. The patient is very restless and complains that she cannot see; the hearing, however, is acute. Cold cloths, with sedative water and bay rum have been applied to the forehead.

September 26th, pulse 108, temperature 102°. Continue treatment and the sulpho-carbolate of sodium and beef tea enema, Stomach very irritable, vomited matter streaked with

black particles, embarrassed respiration continues.

September 27th, pulse 96, temperature 102.5°; 9 o'clock, P. M., pulse 104, patient appears to be entirely blind, but answers rationally, respiration slow and embarrassed, 4 to minnte: black vomit.

September 28th, A. M., pulse 96, temperature 101°. P. M., pulse 104, black vomit, died September 29th, 6 o'clock, A. M.

Case 206. B. D., female, age 6 years, native of New Orleans, attacked September 26th, P. M. Administered 4 grains each of calomel and quinine, and followed with castor oil in 3 hours, bowels freely moved, fever moderate until the 28th, when there was a marked rise.

September 29th, pulse 132, temperature 104.5°; 6 o'clock, P. M., pulse 124, temperature 104.8. During the past 48 hours has been rubbed freely with quinine liniment at regular periods; the head also has been kept constantly bathed with sedative water and bay rum. The symptoms are very alarming at this moment, delirium, twitching and jerking of the tendons, hot dry skin, heavy coat of fur in centre of tongue, which is very red at tip and edges. As I could perceive no beneficial effect from quinine in her case, and in this respect the results were the same as in the preceeding case of her sister, I determined to administer calomel in small doses at regular intervals. R. Hydrargyri sub-chloridi grains iij; divide

into six powders, one powder every two hours.

September 30th, condition much improved, patient quiet, temperature and pulse reduced. From this date the patient improved steadily and was disharged as convalescent on the 4th of October. The following additional notes were recorded in this case:

September 30th, 7 o'clock, A. M., pulse 122, temperature 101.8°; has taken 5 calomel powders, bowels have been freely moved, also administered during the night 1 drop of the tincture of veratrum viridi every 2 hours. P. M., pulse 130, temperature 102.8°. B. quiniæ bromidi grains xxx; divide into 10 powders, one powder every 2 hours.

October 1st, pulse 102, temperature 99.8°. The bromide of quinia appears to have been beneficial. There was no subse-

quent rise of temperature. Recovered.

Case 205. A. D., female, age 7 years, native of New Orleans, attacked September 20th. Severe case, hæmorrhage from

gums and nose. Recovered.

Case 227, F. D., male, age 37, native of New York, in New Orleans 13 years. Attacked September 29th, 10 o'clock, A. M., I was in his house at the time of his attack (corner of Milan and Carondelet streets). Was taken ill while standing by the side of his dead child. I assisted him to his room and placed him in bed; patient complained of chilly sensations and intense pain in head and back. In a few moments after the onset of the disease, I found his pulse to be 106 per minute, and his temperature under the axilla 103.5°. I administered at once ten grains of calomel and ten grains of quinine, and ordered two fluid ounces of castor oil in three hours, ordered also hot mustard foot bath, orange leaf tea and Apollinaris water.

8 o'clock, P. M. Pulse 104, temperature 101.2°; patient says that he had a chill at 2 o'clock, P. M., bowels have been freely moved by purgative. B. quiniæ bromidi 3j., divide into eight

powders, one powder every three hours.

September 30th, 7 o'clock, A. M., has taken three powders of the bromide of potassium. Pulse 92, temperature of axilla 100.8°.

4 o'clock, P. M. Pulse 78, temperature 101°; has taken two

more powders of the bromide of quinia.

October 1st, 9 o'clock, A. M. Pulse 76, temperature 99.8°; has taken two more powders of the bromide of quinia. Complains of great pain in right side of chest and also in the back and lower extremities. Applied sinapisisms to side of chest and to the back. B. quiniæ sulph. 3ij., linimenti soponis, olei olivæ aa f \(\frac{7}{2}\)iij., use as a linament to back and extremities, continue orange leaf tea, Apollinaris water and barley water, beef tea in small quantities at regular intervals. 7 o'clock, P. M. Pulse 96, temperature 100°.

October 2d, A. M. Pulse 76, temperature 100.5°; continue

quinine liniment, beef tea and champagne.

October 3rd. Suffers still with intense pain in back and limbs. Pulse 70, temperature 100.4°.

October 4th. Much improved; 7 o'clock, A. M., pulse 68, temperature 98.6°.

October 5th, A. M. Pulse 68, temperature 98.4°,

October 6th. Pulse 66; continued to improve. Recovered. Case 237, Mrs. K. D., age 28, native of New Orleans; fifth case in house corner of Milan and Carondelet streets. Attacked October 4th, at 1 o'clock, A. M.; during onset of fever threw up undigested food. This patient, like her husband, had been worn out with watching and attendance upon her sick children, she was also at this time nursing an infant about four months old. Pale and anaemic before the attack. 7 A. M., pulse 112, temperature 100.8°. R. hydrargyri sub-chloridi, quiniæ sulph, aa grains x, administer at once and follow with castor oil in four hours; use the quinine liniment externally; after the bowels have been evacuated give three drops of the tincture of veratrum viridi in orange leaf tea every three hours; also ten grains of the sulpho. carbolate of sodium in orange leaf tea, every four hours.

October 5th, 10 o'clock, A. M. Pulse 78, temperature 98.4°. October 6th, 10 o'clock, A, M. Pulse 76, temperature 99.2°

The patient continued to improve and recovered.

Her infant also suffered with the fever and recovered.

The house in which this family dwelt was the only one on the entire square, and in fact there were no houses between it and the swamp towards the lake. The location was low and subject to overflow in high water. The rooms were small and ill-ventilated. I caused the disposal of the patients through the various rooms. The family consisted of six: father, mother and four children, all of whom were attacked, the cases dating as follows: September 20th, September 22d, September 26th, September 29th, October 4th, October 5th. One death occurred in the six cases.

The air of the various rooms in which the sick lay was subjected to examination in the manuer previously described, 1,100,000 cubic centimetres being thus operated on. Upon microscopical examination, in addition to the minute particles of matter possessing vibratory motions and minute sporules, bacteria and animalculæ, the water contained numerous larger vegetable cells with nucleus and nucleolus, about the size of the colorless corpuscles of the blood, and of a distinct green color. These cells resembled most nearly those of the chlorococcum vulgare and of the protococcus viridis and of the coccochloris

brebissionii and resting spore of Bulbochaetis intermedia. We also observed colored granules and colored granular cells of a dark brown and reddish brown color, similar in all respects to the dark granular bodies and dark granular cells observed in the blood of malarial fever. These were probably a species of palmellæ resembling the cells of palmella cruenta.

Iodine imparted a distinct blue color to many of these cells. Upon evaporation, prismatic crystals formed, which were rendered deep blue by a solution of the sulphate of copper.

The water thus obtained from this sick room of the small house (corner of Milan and Carondelet streets) was injected into 5 (five) rabbits, subcutaneously. In some instances it produced local irritation and abscesses attended with febrile symptoms; but no rabbit was destroyed by the liquid.

The results were similar to those obtained by the injection of the water obtained in the residence 363 Magazine street; although the liquid obtained at the former locality contained organized elements, and more especially the algae, which were not present in the latter.

The most marked change observed in the liquid obtained in the dwelling at the corner of Milan and Carondelet streets, by the lapse of some three and a half months, was the growth of the unicellular algæ and the formation of fillaments by the fungi.

ORIGIN OF HOSPITAL GANGRENE, ERYSIPELAS AND PUERPERAL FEVER.

We alluded in the last lecture to the conditions which appeared to be essential to the origin and spread of yellow fever, and cited the instance of the production of moist or hospital gangrene, de novo amongst the Confederate troops during the American Civil War. The origin of hospital gangrene as well as of erysipelas can be traced to the foul air of ill-kept hospitals, in which wounds, whether accidental or made by operative surgery, undergo certain characteristic marked changes, in which specific poisons or contagions are developed. Traumatic erysipelas as well as hospital gangrene, furnishes a specific-contagion from the affected materials of the body, and may be regarded as a zymotic disease. Numerous facts establish that a physician going from a case of erysipelas to a puerperal

woman, may convey the specific contagion to the uterine surface, and may occasion death by that form of puerperal fever, which has justly been regarded by pathologists as *intra* abdominal erysipelas.

Mr. John Simon,\* has well observed, that to say that erysipelas is contagious, is not to say that no case of it can arise without contagion from a previous case. In this respect hospital gangrene, pyæmia and erysipelas appear to hold a peculiar place among the zymotic diseases; and it is probable that full and careful research may show that this peculiarity is equally shared by yellow fever. Probably of all the specific contagia, those of erysipelas and hospital gangrene, stand in nearest affinity to the ferments of common cadaveric decomposition, and are therefore most apt to arise de novo, whenever certain animal textures and juices fall into common putridity. Dr. Semelweiss believed that the immense mortality from puerperal fever in the division of the Vienna lying in hospital, varying from about a fourth to about a ninth part of all the deliveries which took place there, to depend on an infection the real source of which was to be found in the hunds of the medical men in attendance, contaminated with cadaveric poison. The other division of the hospital (reserved for the practical instruction of midwives, whose training does not require them to be brought into contact with dead bodies) suffered only about the tenth part as much as the first; and this was the more noticeable as the second division was inferior to the first in the size and airiness of the wards. Dr. Semelweiss, acting upon his supposition as to the cause of the disease, required that the male attendants of the first division should, as much as possible, avoid contact with cadaveric matter; that after such contact they should never make a vaginal examination till the following day; and that, besides very thoroughly cleaning their hands, they should systematically disinfect them with a solution of chlorine. The latter precaution was not introduced till some months after the more general precautions had been adopted. The result of these measures was that the mortality of the first division at once fell to the usual average of the second division. In 1846 the death rate per cent. had been  $13\frac{2}{3}$ ; in 1847 it was 5 1-5, and in 1848 it was  $1\frac{1}{4}$ .

<sup>\*</sup> Sixth Annual Report of the Local Government Board, 1876, 1877, London 1878, p. 41.

This well known and often quoted instance clearly established the possibility of the spontaneous generation of the Erysipelas Contagium, from unhealthy and gangrenous wounds, exposed surfaces of decaying animal matter undergoing similar putrefactive changes to those of the cadaver in the dissecting room: wherefore if cadaveric decomposition can furnish the contagium of erysipelas and puerperal fever, it is evident that every surgical ward, in virtue of the natural processes of disease going on in it, may be the birth place of that contagium. fluence of the contagium thus engendered, from a wound of such severity as to involve local mortification, and its influence on the surrounding atmosphere would be determined by circumstances: if the ward be well ventilated, dilution and oxydation may render it inert in a short period, and before it had travelled far from its source; on the other hand, in an ill-ventilated ward crowded with ill conditioned surgical cases, the unclean atmosphere abounds with material which the contagium probably converts into its own likeness, and thus all the wounded might be brought under its influence and a so-called epidemic of erysipelas established. In addition to the danger that the contagion might thus, by commingling of atmosphere, spread from one patient to another, there is also the danger that the attendants in the successive operations and wound dressings which they perform, may carry the specific poison from the part of a ward to another, and even to remote wards.

If the preceding familiar illustration drawn from surgical pathology be applied to the elucidation of the origin of yellow fever, no substantial or rational objection can be urged that this disease, in like manner with hospital gangrene erysipelas and puerperal fever, may arise under certain circumstances de novo, when the human constitution in a peculiar state is subjected to the conjoint operation of heat, moisture and the agents and products of the fermentation and putrefaction of animal and vegetable substances. The conditions of heat, moisture and crowding, together with the products of the putrefaction of animal and vegetable filth, appear to be the most important factors in the spontaneous origin of this disease. When once the specific cause, the contagium of the disease is thus developed, as in the case of the spread of puerperal fever, erysipelas and gangrene, the spread of yellow fever, will depend upon several

causes, as continuous heat of a certain degree, a certain amount of moisture in the atmosphere, and the relative purity or impurity of the air of the ship or city in which the disease originates, and to which its victims and their effects are transported. The demonstration by the microscope of numerous living organisms (spores of plants, bacteria and animalculæ), and of minute animal and vegetable particles in the yellow fever atmosphere, and the fact, also, that these minute bodies are found in greatest abundance, in the meshes of the particles of wool and cotton floating in the sick room, is important, as it illustrates the mode in which the contagium of the disease may be propagated and wafted from house to house, and across considerable spaces. In this view it is not necessary to regard the micrococci and criptococci, bacteria and spores, and minute particles, as the essential causes of this disease, although in the countries and under the circumstances in which yellow fever prevails, they are necessary companions of the yellow fever contagion, and may take part in its elaboration, during certain putrefactive changes, and may be the vehicles of its propagation through the atmosphere and of its preservation and concentration in spongy fabrics as cotton and woolen clothing.

CLIMATE OF NEW ORLEANS DURING THE EPIDEMIC YELLOW FEVER, OF 1878.

By climate we mean everything which relates to the physics and chemistry of the air in which we live, which not only continually flows into our blood, but also alters the conditions of our existence, and the state of bodily health, by its variations of chemical constitution, of temperature, of moisture and of electrical and chemical forces.

The conditions of heat, rapidity of motion, weight and moisture in the atmosphere, are so important in their relations to agriculture, commerce and health, that institutions have been established all over the world for measuring the frequent variations.

The discovery of oxygen by Priestley, laid the foundation for the establishment upon a firm foundation of the chemistry of the earth's atmosphere; he believed that he had found the variations to be equal in amount to 6 per cent.; Scheele found from 20 to 30 per cent., and others still greater variations; but Cavendish, who made 500 analyses, showed that the differences

in the composition of the air of various localities were very small, and arrived at the conclusion that 20.833 per cent. of oxygen is the mean amount, and that the composition is constant. Gay-Lussac and Humboldt, after many experiments which gave from 20.9 to 21.2 per cent. of oxygen, settled on a mean of 21.0; Gay-Lussac gave as a mean of the air from mountains and from Paris 21.49; DeSaussure examined the air at Chambeisy and found a mean of 21.05; Bertholet 21.05; Thom Thompson 21.0; Davy 21.0; Vogel on the Baltic 21.59; Hermbstädt on the Baltic 21.5; Dalton at Manchester from 20,7 to 21.15; Doyère found from 20.5 to 21.5; Regnault gave as the result of 100 analyses of the air of Paris, variatons from 20.913 to 20.999, with a mean of 20.96, from Lyons from 20.918 to 20.966, from Berlin from 20.908 to 20.998, from Madrid 20.916 to 20.982, Geneva and Switzerland 20.909 to 20.982, Toulon and Mediterranean 20.912 to 20.982, Atlantic ocean 20.918 to 20.965, Ecuador 20.960, Pichincha, higher than Mont Blanc, 20.949 to 20.981; mean of all the analyses of Regnault 20.949 to 20.988; Bunsen in his numerous analyses of the air of Heidelberg, found the maximum to be 20.970, lowest 20.040; mean 20.924. Dr. Robert Angus Smith, from a careful examination of the analyses of the preceding and other chemists, as well as from his own extended observations, regards the average composition of the atmosphere in 100 volumes to be: oxygen 20.96, nitrogen 79.00, carbonic acid 0.04.

Analyses of the air of impure places show deviations from the numbers found on analysing fresh air. Thus, according to Configliachi, the air of rice fields contains 20.08 per cent. of oxygen, of crowded places 20.3; according to Regnault, air of Toulon Harbor 20.85, of Algiers 20.42 to 20.395, of Bengal Bay, over bad water, 20.387; according to Robert Angus Smith, in the middle of Manchester, 20.179 to 20.868; air from closets or midden behind laboratory 20.70; London, mean of air from various places, 20.857; Glasgow 20.889; marshy or confined places, Switzerland, 20.937 to 21.01.

It is evident from the preceding facts, that the variations in the anounts of oxygen in the atmosphere under various circumstances, of elevation, and crowding, are not sufficient to establish any connection between them and the origin and spread of contagious diseases.

With reference to the relations of the active state of oxygen (ozone), to the origin and spread and arrest of epidemics; it must be admitted that:

1st. The estimation of ozone is in an unsatisfactory state, because other substances, besides ozone, act on the iodide of potassium, especially nitrous acid, which is formed in some quantity during electrical storms; the papers cannot be put under the same conditions from day to day; supposing that iodine is set free by ozone, a portion of it is at once changed by additional ozone into iodozone, which is extremely volatile at ordinary temperatures, and hence a portion of the iodine set free never acts on the starch; and finally, because the ozone may possibly act on the starch itself.

2d. The substance giving the reaction of ozone is neither deficient in marshy districts, nor when ozone is conducted through marsh dew does it destroy the organic matter; and there are no experimental proofs that it acts on the organic impurities of respiration.

3d. There is no weight of evidence to prove that deficiency in ozone has assisted the spread of epidemics of any of the specific diseases, or that excess has checked them.

The facts, however, that the reaction with Schönbein's or Moffat's papers is greater in pure than in impure air, at the seaside than in the interior, that ozone is often absent from hospital wards, though present in the air around them, that it is greatest when the barometer, the mean daily temperature, and the dewpoint are all high, should lead to farther and more numerous experiments; but they do not warrant the assertion made by some writers, that the cessation of epidemics of cholera, malarious fevers, and even yellow fever, has been due to currents of air bringing ozone with them; neither do they sustain the assertion that the accumulation of malaria at night is due to the non-production of ozone by the sun's rays, and that the effect of stagnant air in increasing epidemics is due to the absence of ozone.

The effects of the variations of positive electricity on health and on the origin, spread and intensity of diseases, are unknown; and beyond the fact that free electricity appears to be less during the prevalence of certain epidemics, as that of 1878. in New Orleans, all else is pure speculation.

No theory of the causation of disease has yet embraced the consideration of the neutral gas, nitrogen; but carbonic acid, sulphuretted hydrogen, carburetted and phosphuretted hydrogen, and various volatile substances which constitute odors and vapors, nitrogenized organic matter, organized and living matter, have been considered as active agents in the production of disease.

The variations of carbonic acid and of sulphuretted hydrogen are without doubt most marked in crowded cities and in mines, and whilst both these gases are evolved from putrefying organic substances in increased amounts during the heat of summer, there are no facts to show that such increment is in any manner connected with the development and spread of

such a disease as yellow fever.

The effects of these gases are best studied in mines, in which when the quality of oxygen falls under 13 per cent. and is too small for the process of respiration, or when the carbonic acid amounts to 7 per cent., with several per cent. of sulphuretted hydrogen, and miasms of a peculiar kind, they communicate to the atmospheric air a property which is often very dangerous. As the venous blood possesses a greater affinity for the oxygen than the carbon of combustible substances, a man can replace the loss of oxygen by frequent breathing, and therefore can live when candles and mine lamps go out. As neither the combustible material nor the venous blood can remove all the oxygen from the air, but rather diminish it to 18 and at most to 12 per cent., it follows that atmospheric air, the oxygen of which is to a certain degree diminished, acts towards men and candles like pure nitrogen. In an atmosphere poor in oxygen, there is felt, not so much as a consequence of the presence of nitrogen as the absence of oxygen, constriction of the chest, tickling of the eyes, fatigue, weakness, and anxiety; the breathing becomes more heavy and frequent, and the laborer is compelled to make more exertion at work, whilst perspiration and thirst ensue. If the laborer be continually subjected to such agencies for considerable periods of time, there will be induced in addition to the rapid breathing, paleness, anæmia, debility, hardening of the glands, herpetic eruptions, loss of power in the extremities, and early asthma. We exclude, therefore, from the consideration of the causation of yellow fever, the variations of the amounts of oxygen, ozone, electricity, nitrogen, carbonic acid, carburetted and phosphuretted hydrogen in the atmosphere; for such variations are more marked and frequent in localities in which vellow fever is unknown.

The organic, organized and living matters of the atmosphere, therefore, demand the first consideration; and in the second place the moisture and temperature of the atmosphere, as illus-

trated by the following tables:

Consolidated Statement of Monthly Mortality from Yellow Fever, Typhus and Typhoid Fevers, Bowel Affections, Pneumonia and Consumption and from all Causes in New Orleans, Louisiana, together with Monthly Means of Temperature, Barometric Pressure, Relative Moisture and Rain-Fall.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	Sept'mb'r.	October.	Novemb'r.	December.	Total Deaths.
Yellow Fever					2		50	974	1893	1044	90	3	4056
Typhus Fever								4	12	6	1	0	23
Typhoid Fever	2 2	2	1	2	7	3	3	10	10	0	4	0	44
Typho-Malarial Fever	2	0	3	1	1	3	2	8	2	0	1	0	23
Intermittent Fever			2	2	4	1	0	8	9	2	2	0	30
Remittent Fever	1	0		6	3	4	10	31	35	22	12	3	128
Congestive & Pernicious	3		3	6	4	5	2:3	89	103	87	26	3	355
Total Deaths by Fevers	8	5	10	17	21	16	88	1124	2064	1161	136	9	4659
Bowel Affections	25	30	28	44	60	67	45	83	45	30	47	35	536
Pneumonia	33	41	60	35	19	28	12	18	26	10	35	26	343
Consumption	65	55	77	66	68	108	69	88	89	59	89	47	880
Total deaths, all causes.	403	404	544	475	413	549	492	1191	3151	1652	585	459	10318

MOIS' BAROM	RATURE, TURE, I. PRES.,	January.	February.	March.	April.	May.	June.	July	August.	Sept'mb'r.	October.	Novemb'r.	December.
Temp.	Maxim.	57.94	62.32	72.87	78.20	82.45	88.10	90.03	89.48	85.00	77.39	68.33	58.87
66	Minim.	43.68	48.86	53.13	64.70	67.90	75.23	77.55	76.74	72.10	64.55	52.77	42.87
6.6	Range.	14.20	13.46	14.87	13.50	14.55	12.87	12.49	12.74	12.90	13.79	15.56	16.00
66	Mean.	51.08	55.50					83.83	83.59	78.75	71.42	59.46	50.87
Relative Hum dity	( 7 A. M.	74.5	64.4	77.5	76.7	78.7	45.0	78.0	79.0	77.1	78.7	77.5	78.0
di.	) 2 P. M.	. 52.4	49.4		54.3				60.4		57.5	55.7	62.4
ala m	) 9 P. M.	69.7	68.9		72.8				75.3		72.5	73.3	71.0
HE	( Mean.				67.9								70.5
Barom.													
66	2 P. M												
66	9 P. M												
66	Mean												
Rain-fa	all inches	. 5.36	3,50	4.63	1.51	6.14	7.12	5.26	3: 4.90	2.67	5.07	7.78	8.59

Total rain-fall for the first six months, 1878, January to June, 28.26 inches. Total rain-fall for the last six months, 1878, July to December, 34.27 inches. Total rain-fall for the 12 months, 1878, 62.53 inches.

The entire rain-fall for 1878, was therefore 5 feet and 2.53 inches.

Daily Mortality from Yellow Ferer and from all Causes in New Orleans during the Epidemic Yellow Fewer of 1878; conjoined with daily variations of Temperature, Mean Relative Humidity, Mean Barometric Pressure, and Daily Rain-fall, for the months of July, August, September, October, November and December, 1878.

	Rain-fall, inches.	######################################	2.67
SEPTEMBER.	Barometer, mean.	0.000	30.0
	Relative Humidity, mean.	\$\$£\$\$4\$\$4\$\$\$\$\$44\$\$\$1\$\$\$£41\$\$\$\$55555555	70.4
	Thermometer, mean.	58.801988.444505565868856886886887868868867868868867868688688688	78.7
	Thermometer, range.	13521218 31424575 13244 6444 52112	12.978.7
	Thermometer, min.	8555485585146888555555555555555555555555	72.1
	Thermometer, max.	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	133
	Total Deaths.	2011120 2011120 20120 20120	824
	Deaths, Yellow Fever	259888988888866488448844884488448844884488	4.9 1893 2824
	Rain-fall, inches.	85 8 8 5 5 5 6 6 6 8 8 8 8 8 8 8 8 8 8 8	4.9
AUGUST.	Barometer, mean.	ି ପ୍ରତ୍ୟ ବର୍ଷ ବର୍ଷ ବର୍ଷ ବର୍ଷ ବର୍ଷ ବର୍ଷ ବର୍ଷ ବର୍ଷ	29.9
	Relative Humidity, mean.	3316861288881864311583232888818884	571.6
	Thermometer, mean	42 8 8 8 8 8 8 4 8 8 8 8 8 8 4 8 8 8 8	83 5/7
	Thermometer, range.	0222723323131233471323492222333	12.74
4	Третпошетет, тіп.	0.255.25.75.75.75.75.75.75.75.75.75.75.75.75.75	76.71
	Thermometer, max.	\$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$	89.4
	Total Deaths.	8 7 2 2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1701
	Deaths, Yellow Pever	200000014511544824482544442551448251	974,1
	Rain-fall, inches.	9 4 6 9 9 9 9 4 1 1 4 9 9 8 8 9 9 9 9 1 1 9 8 8 8 9 9 9 9 9 9	5.26
010	Barometer, mean	5 2 2 2 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6	29.9
1.	Relative Humidity.	64111112256262626262521111661138688887	71
er, November and Decemb	Thermometer, mean.	82522828522252222222222222222222222222	83.83
	Thermometer, range.	422,031082224122667153646371233660	2,49 8
	Thermometer, min.	88748888877777788888888888888888888888	77.5 12,49
	Thermometer, max.	888212222222222222222222222222222222222	90.5
	Total Deaths.	3923552448287 x x x 8 2 1 8 2 1 6 1 6 1 7 8 8 2 8 8 2 8 8 1	595, 9
Octob	Deaths, Yellow Fever	200220422002222220000040000000000000000	50
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Continued.
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	.	Rain-fall, inches.	1.1.0000000000000000000000000000000000	
ER.	Barometer, mean.			
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	Thermometer, mean.	55.00 (2.00 cm)		
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		Thermometer, max.	27.82.23.88.87.35.87.24.87.77.88.74.44.41.11.11.11.11.11.11.11.11.11.11.11	
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rerum		Desthe, Yellow Fever	0 - 1 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	
		Rain-fall, inches.	0.00   0.00 	
2		Barometer, mean.		
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LLUM	NOVEMBER	Thermometer, range.	828525252525252525252525252525252525252	
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FRO		Трегтотетет, , тах.	80051164511664386513988188215659813438	
XIII		Total deaths.	824 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
OK LA	-	Deaths, Yellow Pever	200500404000000000000000000000000000000	
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DALL		Barometer, mean.		
		Relative Humidity,	155274528888558925252525555555555555555555555	
OCTOBER.	Thermometer, mean.			
	Трегтотетет, гапде.	13 72.5 14 79.7 15 78.5 15 78.5 15 78.5 16 78.5 17 75.5 17 75.5 17 75.5 17 75.5 17 75.5 17 75.5 17 75.5 17 75.5 17 75.5 17 75.5 18 74.5 19 66.0 10 66.0 11 76.5 11 76.5 11 76.5 11 76.5 11 8 65.0 11 66.0 11 77.5 11 77.5 1		
	Thermometer, min.	25 25 25 25 25 25 25 25 25 25 25 25 25 2		
	Thermometer, max.	88888888888888888888888888888888888888		
	Total Deaths.			
	Deaths, Yellow Pever	10		
		Day of Month.		

The preceding table has been constructed from the daily report of deaths, by physicians and coroners from the records of the Board of Health, and is therefore, as far as the mortuary data extends, correct; the meteorological data were furnished by the records of the United States Signal Service.

If we exclude the single death from yellow fever on the 7th of July (originally recorded as due to perniciuos fever, subsequently charged to yellow fever), and in like manner the three deaths in December, the disease prevailed from the 18th of July to the 25th of November, a period of 131 days; it did not, however, reach formidable proportions, until the 12th of August, when it caused 20 deaths, out of a total of 44 deaths from all causes. The greatest mortality from this disease, namely, 92 deaths, with a total of 120 deaths from all causes, occurred on the 3d of September, although the greatest mortality from all causes occurred on the 9th of September, namely, 130 from all causes, 80 of which were caused by yellow fever. The pestilence reached its climax during a period of 24 days, extending from the 26th of August to the 19th of September; it increased slowly during the latter days of July, causing during this month 50 deaths; it gathered strength rapidly in August, destroying 970 lives; it reached its greatest intensity in September, claiming 1893 victims; it held its own for a time in the first days of October, slowly declining with the fall of temperature, causing a greater number of deaths (1044) than in the hotter month of August; it held but a feeble struggle during the cold weather of November, disappearing entirely during the latter days, and causing during the entire month only 90 deaths.

A minute examination of the entire meterological register for 1878, reveals the following facts bearing upon such elevated temperatures as are supposed to favor the decomposition of organic matters, and promote the origin and spread of malarial diseases:

On the 1st of February the maximum temperature was 70°, on the 18th 71°, on the 21st 72°, on the 21st 70°; the mean temperature for the entire months was, however, 55.50°.

In the month of March the maximum temperatures, were as follows: 1st, 71°; 2d, 76°; 6th, 71°; 7th, 75°; 8th, 75°; 9th, 72°; 11th, 74°; 12th, 78°; 13th, 80°; 14th, 81°; 15th 78°; 16th, 70°; 17th, 78°; 19th, 20th and 21st, 70°; 22d, 77°; 23d, 79°; 24th, 77°; 25th, 73°; 26th, 78°; 27th, 76°; 28th, 82°; 29th, 77°; 30th, 78°; 31st, 76; the mean temperature for the entire month was 66.36°.

In the month of April, the lowest maximum temperature was 65°, and the highest 84°; on the 14th, 15th and 18th the mean maximum temperature for the month was 78.20°; mean of temperature for the entire month of April 71.41.°

In the month of May, the lowest maximum temperature was 76° on the 4th, and the highest 89° on the 30th; mean of maximum temperature 82.45°; mean for entire month of maximum and mean temperatures 75.54°.

During the month of June, which immediately preceded the outbreak of yellow fever, the thermometer, even at the lowest point, always exceeded 70° F.; the lowest maximum temperature was 82° on the 11th, and the highest maximum temperature was 90° on the 2d, 91° on the 5th, 90° on the 17th, 91° on the 18th and 19th, 90° on the 20th, 92° on the 21st; mean of maximum temperatures 88.10°; mean of minimum temperatures 75.23°; mean of temperature for month of June 81,95°.

It will be observed, therefore, that during the three months preceding the appearance of the yellow fever of 1878, the city of New Orleans was subjected to a high degree of heat, which during the months of May and June could justly be termed tropical. Of course the direct heating power of the rays of the sun was much greater, reaching 140°. During the entire year also and more especially in the hot months the relative humidity was great. Now, if the point of saturation of the atmosphere at the temperature specified be 100, the relative humidity was as follows: January, 69.7; February, 60.9; March, 65; April, 67.9; May, 69.8; June, 71.0; July, 71.0; August, 71.6; September, 70.4; October, 69.15; November, 68.8; December, 70.5.

On the 17th of May, the maximum temperature was 83°, and

rain to the amount of 2.06 inches fell. The city was in bad sanitary condition, especially in the unpaved portions, and a most foul stench was emitted from the streets and gutters. This stench was especially overpowering at night. The following day the thermometer registered 83° in the shade, and on the 19th, when the thermometer stood at 78° in the coolest portions of the city, 3.54 inches of rain fell, and was succeeded by hot, oppressive weather, the temperature ranging, from the 20th to the 31st, from 86° to 89° at mid-day. In the discharge of my professional duties, I was exposed at once to the hot steam arising from the filthy streets during the day, and to the heavy fœtid fogs and dews of night, and was firmly convinced that all the conditions for the generation of pestilence were present even at this early day, and so announced my belief to my immediate companions and friends.

It would be impossible for language to convey an adequate description of the discomforts of physicians in active practice during the months of July, August, September and October in New Orleans. The heaven above was like burnished brass; the stone pavements reflected the solar heat with overpowering force, and the uncleaned gutters and unpaved streets and slug. gish canals reeked with noxious vapors. Exposed to the burning heat of the sun by day and the noxious vapors of night; wet in every rain and chilled by nightly fogs and dew, with pestilence everywhere, at home as well as abroad; with the avenues of commerce and intercourse with the outer world closed by a remorseless quarantine; with no signs of life over large sections of the city, except those which were connected with the last sad rights of the dead, it is worthy of record that of those members of the regular medical profession who were found at their post of duty when the epidemic of 1878 commenced, not one deserted; and the stricken city was ever ready to respond to every call of suffering humanity, and sent her physicians and nurses to every point to which the pestilence spread.

It is evident, therefore, that this hot and moist tropical atmosphere afforded every condition for the rapid generation and multiplication of the lower forms of animal and vegetable life, and the evolution of these noxious gases and vapors and odors of the putrefaction of animal and vegetable matters, which are known to be detrimental to health. However the poison may have originated, whether from a "foreign imported germ," or from the decomposing masses of filth in the city itself, or from human beings, in whom a specific disease was excited by the chemical and physical conditions of the surrounding atmosphere, it will be admitted that the lower forms of animal and vegetable life, active in the phenomenon of putrefaction and fermentation, abounded in the atmosphere, and that it is not unreasonable to regard them as active agents in the propation and spread of the Pestilence.

## Opthalmological Casuistry.

By O. R. LANNG, M. D.



## I. Corpus alienum bulbi oculi.

Alma S., 21 months old, came under my treatment November 17th, 1878. The previous day her right eye had been injured by a mother-of-pearl button, or a fragment of it. The accident happened in this manner: a little boy was amusing himself in twirling a button on a string passed through the two holes of the button; according to his explanation the little girl was standing at a distance of about one yard looking at his play, when he noticed that a fragment of the button struck her eye and dropped down on the floor; the string did not break. However improbable this explanation sounded, the boy could give no other; but the fragment, which he claims to have seen drop down on the floor, was never found.

When I first saw the child the examination only revealed an opacity covering about one-fourth of the central part of the corner, which induced me to believe at first that the button, or its fragment, had only superficially injured the corner; already the next day, however, I found that there existed a very small

prolaps of the iris through the cornea in its exterior, lower quadrant; the iris was well dialeted by the atropia, which had been applied, but the interior of bulbus could not be investigated, partially because the child objected much to an examination, partially because the above mentioned cloudiness of cornea covered the exterior part of the pupil. It was now clear that I had to deal with a perforating wound of cornea, but we could not yet decide whether the lens also had been wounded; a few days later some slight inflammatory symptoms set in in the iris, producing a small hypopyon and at the same time lentic substance appeared in the pupil, which had contracted considerably by the iritis.

The eye continuing to be irritable and a complete exclusion of the pupil having been formed, I performed iridectomy inwards (December 13th) hoping in this way to prevent atrophy of bulbus. The operation showed, however, that there already was some atrophy and that iris was very friable, breaking under the grab of the forceps, so that only a small piece of iris could be snipped off; notwithstanding this, I succeeded in obtaining an artificial pupil of quite good size.

The iridectomy did, however, not improve the general nutrition of the eye, which became still a little smaller. The eye had apparently never been very painful to the child, but was sensitive to light, and off and on a few tears would escape.

On January 3d, the mother told me that she had noticed for a few days a scanty discharge of matter, and she thought that it was issuing from the spot, where the cornea originally had been struck. By examination I actually found a little lump of matter of the size of a pin's head sticking to that spot, and in order to satisfy myself about its significance, I gently passed a piece of linen over it, but found to my astonishment that the rag was caught by a sharp, solid protuberance, so closely adherent to bulbus that the whole eye-ball was moved with it. It now became evident that a foreign body was lodged in the eye and the next day I actually extracted a fragment of a mother-of-pearl button, \( \frac{3}{2} \)ths of an inch in length, about \( \frac{1}{2} \)th in breadth; the body had almost the same size and shape as a melon-seed, being pointed at both ends and largest at the midst. This fragment did not entirely correspond to the piece that was

missing in the button; it is for this reason probable enough, that the fragment detached from the button because of the great velocity, had divided in two pieces, one entering the eye and the other dropping down on the floor as the little boy had stated.

The eye in a short time after the extraction lost its irritability; as a matter of course it has suffered considerably by having a foreign body of such a size lodged in it for seven weeks and it is still a little smaller than the other eye, but it may very well yet increase in size and vitality.

I wish to point out as interesting in this case, that the foreign body favored by its shape, being pointed at both ends, succeeded in piercing all the media of the eye and to be hidden behind iris, where it was covered by the iris, and besides by the haziness of cornea; and that on the other hand its shape favored an exit: the eye-ball gradually decreasing in size, and the foreign body as a matter of course preserving its original length, the eye-ball finally became too short in diameter to hold the body.

The diagnosis was in this case just on account of the patient's age rendered difficult, as an examination could only be made when the child was asleep. An ophthalmoscopic examination could only have been made by the assistance of chloroform, but I abstained from such proceeding, because the cloudy condition of the cornea would have prevented an illumination of the eye; later in the disease, when the cornea had cleared up, the exclusion of the pupil rendered an investigation impossible.

Noticing that the inflammation did not yield to the usual treatment, that atrophy set in and continued in spite of the iridectomy, I commenced to suspect the presence of a foreign body as the cause. An extraction of the foreign body at an earlier date (if the correct diagnosis could have been made earlier) would, however, hardly have been of any greater benefit to the eye, the extraction would then have had to be made through an incision, and the body searched for, which manipulations probably would have started a fresh inflammation. At the date when the extraction was performed, the body was protruding and its end could be caught from outside and the interior of the eye suffered no damage, as there probably had

been formed a capsule around the body (the matter issuing from the opening in the cornea, through which the front end of the body had perforated, induces this hypothesis) protecting in this way the other part of the eye from injury.

### II. Ulcus serpens corneæ.

Salvador F., 82 years of age, came under my treatment November 25th, 1878. In spite of his age he was enjoying good health until about 40 days ago; since that time he has been suffering from the disease he still has in his right eye. complains of having continually excessive pains in and around the eye, the pain extending to the whole half side of the head and to maxilla inf.; the pain is so severe that he passes his nights without sleep, and his general health has been impaired by his loss of appetite. The condition of the right eye, when I saw him for the first time was as follows: On the inner, lower quadrant of the cornea is seen an ulcer about the size of a hemp-seed, the bottom of which is covered with light gray colored detritus; camera ant. contains a considerable hypopyon, which communicates with the ulcer through the lamellæ of the cornea, presenting a triangular figure with apex at the lower margin of the ulcer and base at lowest edge of camera ant. Apart of a very predominant arcus senilis, the balance of cornea almost perfectly clear, Iris of about normal color; the place where the pupil ought to be is obliterated by organized lymph; atropia does not dialate the pupil at all. Cornea is surrounded by a ciliary injection of a deep purple color; conjunctiva bulbi much injected; more or less epiphora and photophobia all the time.

It was very simple in this case to make a diagnosis, viz: Ulcus corneæ and exclusio pupillæ; but as to the treatment it was not so easy to decide, taking in consideration that it was highly desirable, if not absolutely necessary, to obtain a satisfactory result in performing only one operation. The exclusion of the pupil indicated naturally an iridectomy, and for the ulcer I should much have liked to perform Sæmisch's operation, which consists in splitting cornea through the ulcer; I have much confidence in this method, having so far invariably succeeded in checking the morbid process and to

see regeneration set in immediately after the operation. In this case I feared, however, that Sæmisch's operation would not be sufficient, when iris was left in its actual condition, as an unbroken diaphragm between the anterior and posterior part of the eye; on the other hand it was doubtful, whether an iridectomy would be of sufficient effect upon the general nutrition of the eye to influence the ulcer; the performance of the operation might besides present some difficulty, as it could be expected, that iris would be in a friable condition and consequently break by the grab of the forceps, so that the artificial pupil might turn out to be more or less irregular. That it would not do to slash cornea through the ulcer and perform iridectomy at the same sitting is evident from obvious causes.

Hoping to ameliorate the nutrition and through that indifectly to act upon the ulcer, I performed iridectomy a few days later (November 29th). The patient was brought under the influence of chloroform, as it proved impossible to perform the operation without, owing to the extreme nervousness of the patient. As mentioned above, it was highly desirable to perform one operation only, all the more as chloroform had to be used; it is always a risky affair to administer chloroform to a person as old as this patient and especially to produce full narcosis, which is always required in performing operations on the eye, when chloroform cannot be dispensed with.

The performance of the operation did not present any difficulty; but the hypopyon remained partially in camera ant, which often occurs, when the pus is of a lumpy consistency. The immediate result of the operation was that all pain ceased and that the general health of the patient improved in a short time; the hypopyon was absorbed gradually and the ulcer presented a more clear appearance. December 23d the injection had nearly disappeared, the ulcer was cicatrised; the artificial coloboma had, however, become very narrow so that vision was rather poor; but I do not doubt, that vision might be restored by a second iridectomy, but the patient seeing very well with the left eye, I do not see any reason to submit him a second time to such an ordeal.

However easy it was to make a diagnosis of the actual condition of the eye, it was not easy to explain its cause; the

entire exclusion of the pupil indicated a previous serious iritis; but whether this had been the primary disease, and the ulcus cornea be a consequence of a deficient nutrition of the anterior portion of the eye, or the ulcer has been the original disease, starting an inflammation of iris, which may have run its course, leaving the organized lymph as a trace of its existence, and the ulcer remaining in its original condition, is very difficult to decide.

# Proceedings of the New Orieans Medical and Surgical Association.

Meeting No. 181. Held February 8th, 1879.

The Association was called to order at 8, P. M. President Dr. W. H. Watkins in the chair. Eighteen members and a quorum present.

The Secretary being absent, Dr. L. F. Salomon was elected Secretary pro tem.

The reading of the minutes of the preceding meeting was dispensed with.

Under the head of "new business" Dr. Layton said he would like to say a few words in regard to cases of life insurance coming up after the death of a client, and related the following case:

A gentleman who had met with reverses in fortune took to drink. Nine months ago he had an attack of delirium tremens. Was called to see him on Monday last, and obtained the following history;

On Sunday he had taken a walk after dinner, drank somewhat freely and suddenly fell unconscious, in which condition he remained the greater part of the night. He must have had convulsions at the time. Early Monday morning he had violent convulsions. The doctor appreciating his precarious condition requested a consultation and Dr. Bickham was called in. On

examination his urine was found albuminous: he never recovered consciousness and died at 71. P. M. His son called upon the doctor and stated that the life insurance company in which he was insured was disposed to cause trouble in regard to pay. ment of the policy. The agent afterwards called to know what diagnosis had been given in the death certificate. The doctor said it was albuminuria. The agent then wanted to know if the doctor had any previous knowledge of the patient's having had albuminuria. The doctor said "no." Agent wanted to know what were his habits. The doctor refused to give him any information on the ground that what knowledge he had acquired was a professional secret. Dr. Layton went on to say that a great many insurance companies were disposed to contest payments on small grounds, and wished to know if a physician can be called upon to tell what he may have learned professionally in regard to a patient. In France professional secresy is protected, and a physician cannot be compelled, even in a court of justice, to divulge professional secrets, and instanced a case in point. The laws of France require that all births must be recorded. A physician had delivered an unmarried woman of a child. He reported the birth but refused to give the name of the parent. The case was brought into court and judgment was declared against him, He appealed however to the "Court of Cassation" and was sustained in his refusal to give the name on the ground that professional secresy was inviolable. The doctor said he would like to make a test case of the above kind to ascertain if a physician could be compelled to make a statement. In the case mentioned the examiner had refused to examine the applicant's urine unless he were paid a double fee. Thought that rather than take the risk the company should have paid it.

Dr. Crawcour said he was glad the subject had been brought up, as we are frequently annoyed by such cases. Last week an insurance agent called upon him to ask questions in regard to a certain party. He refused to give any information unless he was paid the same fee as for an examination. Thinks that physicians should not reveal professional secrets.

The President asked Dr. Herrick if he was not able to give the Association some information in regard to the State laws bearing upon the subject. The Doctor stated that there was no law in this State to protect a physician in withholding professional secrets.

Dr. Logan moved that the subject be deferred and that Dr. Herrick be asked to give as full information as possible at the next meeting. Motion seconded and carried.

Under the head of "Original Papers," Dr. D. C. Holliday read the following instructive paper on

#### INTESTINAL OBSTRUCTIONS.

#### Mr. President and Gentlemen:

1879

The *practical* importance of our subject as indicated by its title, and the frequency of its occurrence, are sufficient apologies for my occupying your time with its brief examination this evening.

I will call your attention especially to the generalization, foreshadowed by the name. To take up seriatim, all the various causes of intestinal obstructions, and to give a special and detailed description of them, would weary you, and after all be of no real practical benefit.

Almost every cause could reasonably afford to be treated as the subject of a monograph, each one separate and distinct, and which you could with much more satisfaction and profit, glean from the many treatises already at your command.

I therefore propose simply to review this very important subject in its practical bearings, and if at the conclusion of these remarks, I shall have succeeded in calling your attention to some of its more salient points, and establishing a few facts to aid in facilitating a correct and rapid diagnosis, and the consequent avoidance of such errors as frequently prove hurtful, and often cause fatal mistakes in treatment, my object will be fulfilled to the utmost, and the few moments I have trespassed on your time and patience, will not be regarded without indulgence.

We are called to see a patient who is taken suddenly, either previously in perfect health, or it may be who suffered some days from partial constipation, or the reverse insignificant diarrhœa, with unsatisfactory straining passages, with rapidly



increasing colicky pains, spreading over whole abdomen, but especially severe, in and around the umbilicus.

Pains increased on pressure, generally remittent in their nature, and followed by exacerbations rapidly increasing in severity. These symptoms having resisted all simple domestic remedies; a physician is summoned, who finds the patient in a state of unusual physical and mental excitement, with all the symptoms rapidly increasing?

The patient clamorously asserting that he would be immediately relieved by a free action from the bowels.

The physician himself thinks that possibly this is only a case of somewhat aggravated colic—prescribes the mild purgatives which either remain inactive or are followed by increased pain, and nausea with their rapid rejection from the stomach.

The more powerful and drastic ones are brought into requisition with only a further increase of agony, vomiting causing an aggravation of all the other formidable symptoms.

Purgatives are now abandoned not without, however, their having produced an increase of suffering and an exaggeration of all the bad symptoms.

Enemeta are resorted to in their turn, varied both in kind and quantity, but save with the production of slight discharges of possibly a few fecal masses from the lower bowels; and scanty, unsatisfactory, muddy mucous discharges, the intestines still remain impervious, and the sufferings hourly increase, so what at first appeared only a trifling indisposition, becomes frequently a most dangerous attack often fatal in in spite of all such remedies as are furnished by the most skillful therapeutists, wieided by physicians of long experience and acknowledged ability. Soon the following painful but graphic picture is presented—as detailed by a high German authority (Lichtenstein).

The abdomen soon becomes distended and tympanitic, features, pinched, drawn and haggard, extremities become cold, respiration superficial and labored, pulse small and frequent,

A painful desire to empty the bowels continues, increased by the failure of all attempts to do so; the absence of flatus and the oppression produced by meteorism. Vomiting, now a prominent symptom, consisting at first of the contents of the 1879

stomach, soon changes into quantities of greenish, bilious matter, becoming often of a dirty brown and finally stercoraceous.

Soon this is followed by complete collapse, cold sweats, hiccup, dyspnœa, colic still recurring, hollow eyes, pointed nose, muffled voice, dry brown parched tongue, tormenting thirst; all this intensified by a clear perceptive intellect to the last.

Thus you will readily appreciate the necessity for rapid and intelligent action to avoid the result just depicted.

It would certainly be interesting in a pathological point of view, to carefully investigate the separate causes and peculiarities of each case.

Recognizing the frequent *impossibility* to determine a positive anatomical diagnosis in even the majority of cases, all practical ends will be better met and a more rational treat ment arrived at, by considering purposely all of the causes together and generalizing the treatment as fully as the title of our paper will warrant.

Feeling certain, too, that no cause producing acute intestinal occlusion originating spontaneously, may not also disappear in like manner, if we are able by cautious and rational treatment to relieve the one and favor the other,

In *children* the attacks are usually most severe, for at this early age they more frequently depend upon such grave lesions as intussusceptation or peritonitis.

In old age from diminished powers of resistance, and the more frequent liability to malignant affections, the prognosis is frequently grave.

In middle age the causes being more varied and frequently less severe, admit of more frequent relief, and oftener result in recovery.

When called to a case, a most patient and careful examination should at once be made. The mode of invasion, all present and commemorative symptoms noted, examine carefully for all evidences of external herniw, wherever it is possible for them to occur.

A thorough examination of the abdomen should be instituted, by cautious palpation and percussion, having previously relieved intense agony, if present, by the free hypodermic use of morphine, aided by anæsthetics thus insuring complete relaxation of the abdominal walls. No investigation is complete without a careful exploration of the rectum in the male, and the vagina and rectum in the female.

These measures carefully practiced, will in the majority of instances, enable us to discover such causes, the knowledge of which would be of any importance in determining the therapeutic indications to be adopted, such as fœcal obstructions, herniæ, compression by tumors, peritonitis, invaginations and intussusceptions and their propable seat.

Opium is our sheet anchor in the treatment of these affections—it must be employed energetically, and in rapidly repeated doses, so as to relieve pains, and arrest vomiting. which it will do with more certainty than any other drug known to pharmacy; it must be employed till all nausea ceases—slight narcosis produced and entire freedom from pain.

Then enemata, warm baths, gentle frictions over whole abdomen with soothing liniment, the occasional use of hypodermic injections, of morphine to control peristaltic action, all are useful adjuvants, diminishing the risk of peritonitis, and increasing the chances for spontaneous relief.

The use of purgatives in cases of intestinal obstructions, cannot be too highly censured, their use, which I am sorry to say is but too general, can only be explained upon the ground of senseless empiricism, based upon a total ignorance of their pathology and an entire disregard of all physiological principles of correct medication. And I adopt the opinion of Rust, who "declares the use of purgatives, and irritating enemata, an offence not only against all the principles of advanced medical science, but also against common sense, only making the progress of the disease more acute and violent."

Opium has been accused of producing a tendency to collapse; such has not been my experience with it, nor do I think that this accusation can be borne out by facts and observation, nor is it by any means the verdict of our most skillful observers.

After establishing the fact of the great and almost sole reliance to be placed in opium as our most certain curative agent—there are many other means which, when judiciously em1879

ployed, may be productive of great benefit; I shall briefly pass in review some of the most important.

Cracked Ice. To allay the thrist and quiet the stomach is invaluable.

At the beginning of an attack when complete occlusion or impermeability has not yet been reached, warm copious enemata and gentle cathartics, such as castor oil, a solution of sulphate of soda with belladonna added, calomel guarded with Dover's powders, judiciously exhibited, may tend to maintain the permeability of the intestines and afford relief when the freedom from pain is prolonged, by an occasional use of hypodermic injections of morphine.

Metallic Mercury. This powerful remedy has found its advocates, and its use advised in extremis, in doses of from one to three hundred grammes, until one to two bs. have been given. I believe, however, there are but few who would hazard its use—acknowledged by all to be very uncertain—and its effect even if it reached the source of constriction, might be fatal by its weight causing a rupture of the parts.

Very large injections. These administered by a fountain syringe adapted to the long tube of a stomach pump, passed carefully up the bowel, I think I have found beneficial. In one or two cases having thoroughly filled, as far as I was able, the large intestines in this manner by warm water, I have then added a pint or two of olive oil, when by placing the patient on his elbows and knees, and allowing gravity to favor the rise of the oil to the surface of the liquid already in the bowels, I think I have hastened a more complete action of the enema. The use of enemata should be persisted in only when the patient is fully under the influence of opium, when we may suppose the paralysing effect of opium may act most favorably upon the ilio cœcal opening, so as in some measure to do away with the great difficulty of passage of fluids from the colon to the ilium, and this effect may probably be still further facilitated by the relaxing effects of chloroform or ether.

Electricity. Its effects may be considered somewhat problematical.

Warm Baths. These may be admissible where there is not too much debility, but in their employment during the latter stages,

this fact should be borne in mind, and limit their use, i. e. that in intestinal obstructions and occlusions, death usually occurs from acute arterial anemia of the brain (with frequent concommitant ædema), resulting in the production of consecutive paralysis of heart, death often occurring suddenly from syncope.

Nourishment and Stimulation. These very important aids should never be neglected, and the relief of nausea by opium frequently enables us to employ them, which otherwise would be impossible.

Appreciating the danger from *syncope* we should studiously avoid all causes likely to produce it, such as muscular effort, the erect posture, etc.

Insufflation of Air. This has been recommended highly as often productive of the best effects and in many cases might be worthy of trial.

Aspirator. This instrument has been recommended for removing flatus, thus diminishing meteorism and gaseous distension, and some more heroic than the rest have advised its use with large trocars for the direct removal of masses of accumulated feecal matter. In some few cases where the probable cause of obstruction may be traced to compression, no doubt relief might be obtained by the puncture of a large cyst, or adjusting some misplaced organ.

The choice of such surgical means of relief as laparotomy, laparo colotomy or ileotomy, lumbar colotomy, etc., must be left to the judgment and skill of the surgeon in charge, who will decide according to the peculiarities of each individual case.

The discussion of the subject being in order, Dr John Dell 'Orto said: The subject, on which I have to open the discussion, has been so well treated by Dr. Holliday in his paper, that I have scarcely anything to say. I will only relate four remarkable cases of cure of intestinal obstructions overcome by me chanical means.

One of these cases happened in my own practice several years ago. One night of the month of November, in 1867, I was called in a hurry to see a lady supposed to be in articulo mortis, who had been sick only a few hours. You remember, gentle-

men, that after the epidemic of yellow fever of 1867, we had in this city several cases of Asiatic cholera. Well, the appearance of this patient when I first entered the room, was that of a person dying with symptoms of cholera, such as decomposed features, profuse and cold sweat, dfficult respiration, weak and filiform pulse, excessive pain. cramps in her bowels, and general anxiety. But when I examined the abdomen I found on the right side a tumor in the ascending colon, big as my fist, and as hard as a rock, very painful to the touch. I soon made the diagnosis of intestinal obstruction.

The woman was very sick and needed to be relieved as soon as possible—there was a mechanical cause which ought to be removed by mechanical means. The idea of trying internal compression by enema came to my mind, but how could I succeed with a common syringe? I happened to have in my pocket an œsophageal sound. I introduced it into the rectum as far up as I could; I applied to the outside end of it the tube of a common syringe, and I forced in about twelve ounces of warm water and sweet oil. The enema passed through the obstruction, and a portion of it came out by the stomach. The relief was immediate. I administered a few pills of opium and assafædita, applied flax-seed poultices, and ordered sweet oil to be taken by tablespoonfuls every hour.

Next morning, she was a great deal better, and in a few days recovered.

The second case of which I want to speak, is reported in the December number of Revirta of Ciencial Medical of Barcelona, which I will translate.

"Doctor Ruiz Gutierrez was called to see a patient on the "15th of June, 1878, who at the moment of getting up from "his bed on the morning, had felt a severe pain at the epigas-"trium, that did not last long; but a few hours later the pain "returned with such intensity, that he was obliged to go to bed, and send for the doctor.

"He was a man, 33 years old, of a healthy and strong con"stitution, presenting the following symptoms: dorsal decubi"tus, acute pain in the epigastric region. accompanied by a
"feeling of tension, excessive heat, nausea, and vomit of a

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"greenish fetid stuff, thirst, dry tonge, constipation, weak and "irregular pulse, and very difficult respiration, interrupted by hic-cough. Prescribed a calming mixture, emollient drinks and leeches to the epigastrium. Next day, same symptoms, complicated with tympanitis. Ordered the abundance of the companion 
"Third day—no improvement; on the contrary pain was increasing, and the patient vomited excrement. Prescribed a cathartic purgative.

On the 19th, same symptoms. Ordered a general tepid bath, and enemata of tobacco.

"On the 20th, the patient is worse, and sinking with pro-"fuse and cold perspiration.

"Dr. Ruiz Gutierrez, seeing that all the means he tried had failed, thought of internal compression by the adminis tration of liquid mercury. In twenty-four hours he gave one pound of quick-silver in three doses, the first two ounces, the second four, and the third six—vomit diminished after the first dose. In order to avoid absorption, and at the same time to facilitate the expulsion of the mercury, castor oil was administered. Next day the patient is better, he makes copious natural evacuations, in which particles of merury are observed. The improvement is continuing, and on the 25th

This treatment by mercury is an old treatment, but in our days physicians are opposed to its use; they are afraid that it might be detained, on account of its weight, in some portions of the intestine, and become a cause of more mischief than the disease itself, but some facts seem to prove that generally its administration is not followed by any bad consequences. There is recorded in the Medical Annals of Italy a very remarkable case of volvulus that was cured by the combination of forced enemata and mercury.

"of June, the man was perfectly well and able to go to work."

The case is very interesting and worthy to be read before the Association.

"It happened in the year 1825, Dr. Antonio Bonati had "under his care a young man twenty-two years old, who, at "the moment of having a natural passage from his bowels, "was suddenly seized by a pain in the right iliac region, which

"in a few minutes became very severe. Anything that could "be done was tried, but without any relief; the symptoms of "internal strangulation were increasing, and death was almost "certain. Doctor ordered a forced enema of three pounds of "warm water with bran. No improvement after the injection; on "the contrary the symptoms were, a few hours later, more "alarming. Then he decided to try the metallic mercury by "the mouth—it was eleven o'clock in the night. Immediately "after the first dose, the patient felt worse, as if he were "dying; but a few seconds afterwards, a sensible borborygmus " was heard, due to the autiperistaltic movement of the whole "intestinal tube, that caused the ejection through the mouth " of a portion of the enema previously administered. From "this moment there was a remarkable calm in all the symp-"toms; two doses more of mercury were administered at the "interval of half an hour. The patient passed a good night, "and at eight o'clock of the next morning he had three nat-"ural evacuations. On the ninth day of the disease, he was "convalescent, and a week afterwards he was perfectly cured, "without any bad consequences from the mercury."

In the last number of the Indipendente of Turin, which I received this morning, there is an interesting communication from Dr. P. Tozzielli, on volvulus and its mechanical treatment, On the first day of January, 1879, the Doctor was called in consultation by another confrére to see a prtient, who had been sick three days, presenting all the symptoms of intestinal obstructions, with stercoraceous vomits, etc. The man was in a dying condition. All the therapeutical means that are indicated in these cases, had been tried and exhausted by the attending physician. As ultima ratio the administration of small gun shots was proposed to, and accepted by the patient; 200 grammes (about four ounces,) of shot were put in 150 grammes of sweet almond oil, and given by tablespoonful every half hour. After the third tablespoonful the patient felt better. He took the whole quantity without feeling any heaviness or trouble in his stomach. On the fifth day after the administration he had two excessively fetid evacuations. On the sixth all the shot came out with the stools. On the ninth the man was convalescent and out of danger.

Dr. Crawcour said that in the cases reported by Dr. Dell Orto, no opium had been given. Thinks that if it had been administered there would have been no occasion for the use of the remedies mentioned. The Doctor said it was often difficult to differentiate between enteritis and intersusseption. He would suggest the use of belladonna with the view of relieving spasm. In using the long tube for enemata we run the risk of rupturing the intestine. He recommends gaseous distention by the use of a solution of bicarbonate of soda followed by a solution of tartaric acid by enema.

Dr. Logan said that the therapeutics in such cases depended upon the differential diagnosis.

There is one point in diagnosis worthy of mention; that is, the form of obstruction due to diaphragmatic hernia. In all cases presenting symptoms of obstruction we ought to take into consideration the possibility of this being the cause. In such cases there is great tenderness on one side of the ensiform cartilage. Auscultation might reveal borborygmi above the level of the diaphragm. Little or nothing can be elicited by percussion unless it be an abnormal increase in resonance which is very difficult to det ct. An early diagnosis is important in order to differentiate between intestinal colic, enteritis and cellulitis. The Doctor then related a case of obstruction caused by inflammation with hardening of cellular tissue outside of the transverse colon. Patient was put upon absorbents, iod. of potash and mercury, and recovered. In all cases he considers purgation injudicious.

Dr. Gourrier said he thought that very often a patient could be relieved by manipulation, especially in intersusseption, and related the case of a man who had been stabbed in the left hypogastric region, who afterwards presented symptoms of intestinal obstruction; on examination he found a fold of the intestine over a fibrous cord at the seat of the old wound. The man died, but the Doctor thought that he might have been relieved by manipulation had it been practised. The Doctor related several cases which he had relieved by this means, viz: kneading of the bowels.

Dr. Logan said that in making manipulation success all depended upon chance. In selected cases it might be practised

with a chance of success. He condemns the use of violent cathartics. Dr. Brinton, of England, explains why. He says there is no such thing as reverse peristaltic action. By giving purgatives you throw the intestinal canal into peristaltic action, the fluid from intestines with the medicine meets the obstruction and owing to peristaltic action a double current is set up, one down the other up. Purgatives do damage by increasing the obstruction; opium arrests peristaltic action and enables us to give other remedies.

The President, Dr. Watkins, said that it was necessary for proper treatment of a case to diagnose the form of obstruction. Age has much to do with the cause. In children it is generally due to invagination; in middle age to inflammatory troubles located in or about limited portions of the intestine, accumulation of foecal matter, or hernia; in old age to cancer. That care in regard to diagnosis of obstructions of the bowels is of the greatest importance, the following case will prove.

Was called to see an adult negro who was suffering with symptoms of intestinal obstruction. There was the history of an inguinal hernia, left side, of long standing that had previously given trouble; at present there was no evidence that the hernia had anything to do with the symptoms. The finger could be passed along the inguinal canal to the internal abdominal ring, but no hernia could be felt. The abdomen was greatly distended with gas, pain was excessive, and there was constant vomiting. Enemata failed to relieve the bowels and opium procured no rest.

Drs. Logan and Souchon were called in consultation and it was decided to open the abdomen, search for the constriction and if possible relieve it. The incision was made from the umbilicus to the pubis. The intestines filled with gas rushed out. The gas was evacuated by means of the aspirator. The intestines were traced up and the obstruction found at the left internal abdominal ring. Had he been operated upon at the seat of his old hernia the case might have recovered, as it is death took place from shock soon after the operation.

Dr. Logan said he had tried Simon's plan of exploring the rectum but without any practical result. There was always danger of tearing the rectum four or five inches from the anus.

He would suggest the use of a large size Nelaton elastic catheter as it cannot do any harm.

Dr. Crawcour stated that he had had made by Tiemann an elastic rectal tube made of red rubber.

Dr. Davidson said he had been called in consultation to a lady who had been confined three weeks before. She had symptoms of intestinal obstruction. On examination he found a round tumor in the left iliac region. Enemata had been given by the attending physician without any relief. She had great thirst, rapid pulse, fever, and excessive tenderness of abdomen. He repeated the enemata but brought nothing from the bowels. She was placed under chloroform and the rectum explored. The tumor was found situated at the sigmoid flex-The vagina was dry and vulva swollen. She had suffered from hemorrhoids. On passing the hand into the rectum the tumor was tound to be of an elastic character, A mass of accumulated mucus was broken through and the tumor found to consist of fœcal matter. It was removed by the hand and the bowels were relieved. No other means would have been justified. The hand accomplished everything necessary.

The doctor reported another case: A man of 40 years was suffering with obstruction. He had taken purgatives without any effect. He was seen in the evening by the doctor and a warm bath followed by calomel and opium ordered. The doctor having some distance to go in the country did not return until the next morning when he found him dead. Had died suddenly during the night, probably from syncope. Autopsy revealed torsion of the colon. It is remarkable that he did not vomit. The pain which he had suffered was of an intermittent character.

Under the head of "Medical News," Dr. Holliday related a rare case. It was one of erysipelas in an infant eleven months old. It commenced at the vulva and extended around the buttocks to the symphysis pubis on both sides. The constitutional symptoms were severe. There was constant nausea. Temperature 104½. The doctor said he was at a loss for the cause. Treatment had produced no effect. Prognosis unfavorable.

Dr. H. also reported a case of hemorrhage from the bowels in an infant. The hemorrhages occurred three times during one night. From one to one and a half ounces of blood were passed. The trouble was evidently due to some irritant swallowed. The prognosis was favorable. Had seen a similar case two years ago which died. Three and a half years ago had seen another case which recovered.

Dr. Crawcour mentioned a case of exophthalmic goitre, which was getting well under the use of galvanic electricity applied to the superior cervical ganglia of the sympathetic. Had used ten or twelve applications, and thought it would require about as many more to complete the cure. Dr. Crawcour also reported a case of diphtheria on Canal street near Galvez. He ordered a cathartic of calomel, and also prescribed muriated tincture of iron with chlorate of potash, compound tincture of iodine in 10 drop doses; a gargle composed of a solution of permanganate of potash, and Wyeth's compressed tablets of chlorate of potash.

Dr. Crawcour also called the attention of the Association to Dr. Richardson's new caustic, called ethylate of sodium. The Doctor showed a sample prepared by himself. It is made by adding cautiously metallic sodium to absolute alcohol until effervescense ceases. It can be used strong or diluted. An advantage which it possesses over other caustics is that its action can be stopped by the application of chloroform. The ethylic acid is thus converted into alcohol and the caustic soda into sodium.

There being no further business before the Association, the meeting adjourned.

L. F. SALOMON, M. D.,

Secretary pro tem.

# CORRESPONDENCE.

Messrs. Editors:

I wish to relate to you an unusual case that occurred in my practice two years ago. I was summoned in October, 1877, to

visit Mrs. R. W., of German descent, aged 20 years, in labor with first child, Presentation natural and labor progressed favorably until the head was born, and at this time labor was, for a while arrested. This I could not account for, and after waiting a time, made slight traction; this availing nothing, I at once concluded that something unusual was the cause of nondelivery, which of course gave me no little alarm. I still persisted in traction, and by increasing slightly, noticed some After a time a male child was born, and I was shocked and astonished at beholding an immense tumor situated upon the abdomen, the umbilical cord attached at the center. I decided this to be a case of exomphalus. The tumor was much larger than the child's head and was covered with a thin, perfectly transparent membrane, which was traversed with numerous large blood-vessels. The intestines and peritoneum were plainly visible beneath, also one edge of the spleen. The skin reached further upon the left than on the right side, and at most, did not extend an inch.

I tied the cord and adopted no treatment at the time whatever. I could not conjecture any, as there was no possible chance to effect anything by pressure. The little unfortunate lived 13 days, mortification occurring in patches. I then applied a solution of carbolic acid, as the odor arising from this was very offensive. After death, the father persistently refused an examination and would not even permit me to see the child.

Mrs. W. has since given birth to a healthy female child.

MILTON DUNN, M. D.

Montgomery, La.

# CURRENT MEDICAL LITERATURE.

THE MICROSCOPIC—EXTRACTS FROM THE ADDRESS OF HENRY LEE, ESQ., PRESIDENT OF THE QUEKETT MICROSCOPICAL CLUB. DELIVERED AT THE ANNUAL MEETING, JULY 26, 1878.

The practical application of the microscope to the things of every day life is something more than merely commercial microscopy. It is just that phase of microscopy which com-

mends itself to the utilitarian, inasmuch as it furnishes a complete answer to the question, "What is the use of it?" As a rule, I have little respect for the mere utilitarian standard; but, as so good an answer can be returned to the utilitarian questioner as to the utility of the microscope in a money-getting and money-spending world, let us be prepared to meet such an one on his own ground, and furnish a reply of the requisite kind. There are so many phases of this side of the subject that I shall not attempt to elaborate them. I beg you to understand that in mentioning a few I am only endeavouring to suggest a train of thought—not to compile a list of topics.

1st. The microscope is, and may be still more than it is now, a useful instrument in the detection of crime and of criminals. Instances will occur to many of you of cases in which the microscope has been applied to stains of blood, to fragments of hair, and in other ways, with great success. A curious illustration of this will be found in a suggestion made in France, during last year, in order to prevent the forgery of bank-notes. There are some large toad-stools, common everywhere in Europe, which are known by the scientific name of Coprinus. These, as they grow old and decay, melt into a black fluid of a permanent character, which has been used as ink. Under the microscope this fluid consist of uniform purple-black oval spores, which may be detected in the ink at any time after its use. The proposal in the "Bulletin de la Société Botanique de France" was to the effect that bank-notes should be printed or signed with this ink, which could always be verified under the microscope. I believe the obstacle to this was that there was no way known of manufacturing this coprin ink which

forgers themselves could not employ.

2nd. The microscope may be useful in establising innocence, as well as detecting crime. I had the great pleasure, some years ago, by means of the microscope, to save the reputation of an honest man, and prevent his being dismissed from a situation in which he had faithfully done his duty for many years. As, although I have frequently mentioned the incident in conversation, it has, I believe, never been published, I will record it here, as apropos to my subject. My deceased friend, Edward Blyth, the learned Indian zoologist, one day brought me a few fibres of fine hair, with an earnest request from a certain noble lord that I would, if posssible, ascertain to what animal they had belonged. He was under a strict promise, he said, to give me no information, except that a matter of grave importance rested on my answer. Of course, I carefully examined the few fibres submitted to me, and was soon able to decide that, beyond a doubt, they were the hair and wool of a hare. I was enabled to arrive at this conclusion with the greater ease and certainty that I had just previously been engaged with "the microscope in its commercial relations," in minutely examining with a view to comparing

their structure with their relative felting properties, the various furs used by hatters, amongst which is hare's wool. Poor Blyth was a very excitable man. When I told him my decision he shook my hand, and the tears rushed to his eyes, as he ejaculated "Thank God for that!" And then he danced about the room, and gave away to so many exuberant expressions of delight that for a minute or two I could not obtain from him the explanation I was longing for. At length, he told me that a gamekeeper in the service of the nobleman referred to had been accused to his master of having been seen to trap a fox, cut it open, disembowel it, and carry it home with him to hide his misdeed. As vulpicide in a hunting country is regarded as an offence about as heinous as childmurder, the keeper would inevitably have been dismissed in disgrace if the charge had been proved against him. His story was that he had found a hare in a trap set by a poacher. whom he had deprived of his expected prize by taking it home for his own dinner, after paunching it on the spot; and he added that the man who made the accusation was a troublesome poacher, and the owner of the trap, who had a spite against him because he kept a keen watch upon his movements. As the latter persisted in his accusation, the keeper's knife, with which he had opened the animal in question, was examined; and, in the hinge of the blade, w re found the hairs sent to me. My reply completely confirmed the keeper's statement, restored him to his master's confidence, and baffled the malignity of a scoundrel.

Two or three years ago an action at law came on for hearing in the North, in which a large field of onions having been blighted and destroyed, certain persons were sued for having caused the evil by the smoke of their neighbouring works. On the trial these damaged onions were produced, and proved to have been destroyed by a parasitic rust, which filled all the tissues of the plants, and killed them. The microscope gave

an answer to the action, and the suit was lost.

Last year a similar trial took place in Edinburgh. A large number of evergreens and other trees were covered with a black coating like soot. It was assumed that this, also, was a case of smoke nuisance, and an action was commenced against the owners of certain chimneys. On the trial the report of our Foreign Secretary, Dr. M. C. Cooke, showed that the black substance was not soot, but organized vegetables—algæ and fungi—capable of germination; and, again, the microscope prevailed. In both these instances had the simple precaution of microscopical examination been first employed large sums of money would have been saved by those who, having suffered supposed injury, attributed it ignorantly to the wrong cause, and experienced defeat.

3rd. The microscope is useful in protecting us against commercial frauds, Most of you are acquainted with Dr. Hassall's book on the adulteration of food; and from it you will have learned how effective an instrument is the microscope in the detection of adulterations. A friend of mine, who is known to be a most indefatigable microscopist in the locality where he has resided for twenty years, called on his grocer for some article of domestic use-arrowroot. I think-and was astonished by being told by the tradesman that he had none to sell. He remarked, in surprise, that he had seen some weighed a few minutes previously. "True," said the grocer, "but I can't give you that-you are too handy with the microscope!" Not only in articles of food, but in clothing also is this protection afforded by the microscope. Some few years since one of our members, Mr. Suffolk, was engaged in a long series of experiments and examinations with the microscope and polariscope on the structure of flax, hemp, jute, cotton, and similar fibres. As a consequence, he was subsequently appealed to on more than one occasion to determine the character and extent of mixtures found in woven fabrics. Although this is an operation of great delicacy, when applied to fibres so similar in structure as jute and hemp, it is comparatively easy to detect the admixture of cotton with hemp, or of jute with silk.

4th. The microscope may be useful in the detection of concealed dangers to health. Some time since great consternation prevailed on the subject of trichinosis. All the evidence then adduced concerning the trichina encysted in diseased pork was founded on microscopical discovery. Instances might be multiplied, of course, of what has been done and what may be done to render the microscope valuable in commerce and in every-day life; but I shall rest satisfied with having suggested thoughts which may be persued at leisure. I fear that some of the elder members of our fraternity may consider my remarks somewhat elementary; but it is my duty, as President of a Club like ours, to bear in mind that there are constantly joining our ranks recruits, to whom the microscope is new, and who have a right to expect guidance and assistance. That such incidents as I have mentioned could have occurred is sufficient proof that our Club, and other kindred Societies, may do good service by impressing upon public opinion the practical utility of the instrument from the use of which we derive so much intellectual enjoyment. In some quarters practical men are desirous of enlisting the microscope in their service. I recently received a communication from the Manager of a large brewery, inquiring whether, and to what extent, the microscope might be expected to afford assistance in the operation of brewing. Some of the most formidable difficulties of a brewer are connected with the process of fermentation. This subject has had some little attention from workers with the microscope, and it is not surprising that, having learned this, manufacturers should ask us whether we can furnish them with any practical results. The acquisition of knowledge and the cultivation of science are delightful and beneficial of themselves, but, in my opinion, the highest object of science,

and the greatest use of knowledge is that they be made practically advantageous and beneficial to mankind. It is this feeling which has suggested the tone of my remarks to-night.

## DEXTRO-QUININE AS AN ANTI-PERIODIC.

BY C. O. DUNLAP, M. D., CHILLICOTHE, OHIO.

Having had my attention called to a new anti-periodic bearing the above title, some months ago, I determined to give the said dextro-quinine a fair and impartial trial. I received samples of the remedy, indirectly from the manufacturers of the

drug, and have given it a throrough testing.

In my "case-book" are the notes of fifteen cases of intermittent fever, in which dextro-quinine was substituted for the sulphate of quinine. The first case was of the quotidian type; and had taken sulphate of quinine for three days; but a recurrence of the paroxysms each day indicated no improvement. I then prescribed,

made in pills No. viij., one to be taken every two hours during the night, until all were taken. The following day, there was no return of the paroxysm; the same prescription was repeated on the succeeding night, and the patient has had no subsequent return of the fever.

I might add to this, and enumerate other cases in detail, but it would be superfluous, as the one cited above is an example of all the cases in which I have prescribed dextro-quinine.

Dextro-quinine requires only the same number of grams, to effect the same amount of good, that would have to be prescribed of the sulphate of quinine, to get a corresponding benefit: and it has, indeed, appeared to me to exert more salutary effect, on old cachetic cases of malarial poisoning, than sul-

phate of quinine.

As regards the "nervous phenomena," which are so objectionable in the sulphate, I have yet to find a person who has complained of tinnitus aurium, or deafness, even after the administration of large and oft repeated doses of the dextroquinine. So much has been said, during the past two or three years, concerning some of the chinchona alkaloids, and of their freedom from causing "ringing in the ears" sensations, as they are sometimes called, that I determined to test that point myself, ere making an assertion to that effect publicly.

I now know whereof I speak, for I have tested it in propria personæ. I took at one dose one gram (about 15 gr.), of dextroquinine, with the following result, viz: My temperature before taking was 99° (F.), pulse 80; two hours after taking, my temperature was 98.5° and my pulse was reduced to 68 per minute. I experienced none of the "nervous" symp-

toms attributed to the sulphate of quinine. There was no nausea, which, had it been quinine, would have been persistent.

The district in which I live is as highly miasmatic as any section of country fifty miles on either side of the Ohio river; and one as eminently calculated as any for testing the merits of any anti-periodic. Here we have malaria developed and manifested the whole year round. In all diseases of whatever class we have more or less of the malarial to combat, and one ingredient of nearly every prescription is one of the cinchona alkaloids. City and country are alike affected, and quinine has been as staple an an article as flour. Living in such a district, I have abundant chances for testing thoroughly dextro-quinine.

I can now assert that dextro-quinine, in the same doses and under the same conditions, will produce all the good results of the sulphate of quinine, with none of the objectionable features of the latter. The weakest stomach will tolerate dextroquinine, which is another elective point in selecting an antiperiodic. Besides its mildness in "nervous characteristics," it is so cheap that it is within the reach of all—it being sold, I

believe, for about one-third of the quinine price.

Taking all things into consideration, therefore, I regard dextro-quinine as a preferable anti-periodic, to sulphate of quinine, in any and all cases; and recommend those who want a thorough and reliable substitute for quinine to try it.—Ohio Med.

Rep.

## EXCESSIVE SECRETION FROM THE NOSE.

BY JULIUS ALTHAUS, M, D.

The case of watery fluid dropping from the nostril read by Sir James Paget at the last meeting of the Clinical Society reminds me of a case of disease of the fifth cranial nerve which was some years ago under my care, and which is published in the Medico-Chirurgical Transactions for 1869, vol. lii, page 28. In that case, there was, in addition to many other symptoms consequent upon the withdrawal of nervous force from the sphere of the trifacial, an incessant flow of fluid from both nostrils, which, on running down to the lips, made the skin very sore and caused the moustache to fall out. In consequence of the incessant maceration which went on, the middle portion of the upper lip appeared quite white, like a scar from a burning or from the application of sulphuric acid.

The same excessive secretion took place in the mouth, and the patient was, therefore, obliged to keep a pocket-handker-chief almost constantly applied to his nose and lips, in order to catch the stream of liquid. A handkerchief would become saturated with liquid in a short time. The lips appeared covered with froth, such as we see in a patient who has just come out of an epileptic attack. Both corners of the mouth

were very sore, being macerated by the constant flow. This

liquid was slightly alkaline.

If we read Sir James Paget's case by the light of the one just alluded to, in which the cause of the flow was manifest, the pathology of it ceases to be so obscure as it was pronounced to be by our eminent confrère. The nasal mucous membrane receives its nervous supply chiefly from the ophthalmic branch of the trifacial nerve and from the sphenopalatine ganglion, the secretion from the mucous membrane being caused by the sympathetic and regulated and inhibited by the fibres of the fifth nerve. Remove this inhibitory influence of the trifacial, so as to allow the sympathetic fibres to rule supreme, and you get hypersecretion of liquid, as was plainly seen in my case, where it occurred not only in the nose, but also in the eye and mouth. Sir James Paget's case will, therefore, probably turn out to be one of injury or inflammation of the nasal twig of the ophthalmic branch of the fifth nerve. Perhaps the "headache from which his patient suffered shortly before the flow commenced was a symptom of neuritis of that twig. My view of the pathology of this case would be quite established if there should be anæsthesia of the mucous membrane of the nose, or of some portion of it, on the side corresponding to the flow.

In my case of anothesia of the fifth nerve, the excessive secretion of liquid was eventually checked by the use of the constant voltaic current, under the influence of which the function of the trifacial nerve was to a great extent restored. When the patient was discharged, the lips were no longer covered habitually with froth, but appeared quite dry.—British Medical

Journal.

#### THERAPEUTICS IN THE VIENNA SCHOOL.

A correspondent of the Chicago Medical Journal and Examiner, writing from Vienna, says that after listening for some time to the lectures of Prof. Bamberger, and hearing but little said of therapeutical measures, he asked a German physician why Prof. Bamberger did not tell something about treatment. The reply was, that physical diagnosis was his only forte; that if he encountered a case in the diagnosis of which there was doubt, his great fear was that the patient, before his death, might pass from under his observation, and that he might be unable to clear up the mystery by a post-mortem examination. Prof. Duchek, he says, although not so widely known as Prof. Bamberger, is far the better clinical teacher, and it is from him that one gets most of the practical hints in therapeutics that are to be obtained there. In the general resumé that Prof. Duchek gave at the end of the winter semester of his plan of treatment, he began by laying down the following maxim: "Give no medicine that will materially disturb the functions of life in your patient." He said further that in the early years of his practice he had used a wide range of remedies, was ever ready

to make trial of all the new and much-vaunted preparations that were brought forward; but, having been almost invariably disappointed in their use, he had now settled down to the employment of about one dozen remedies, seldom giving any others. Of these the principal are quinine, digitalis, iodide and bromide of potassium, opiates, the salicylates, the acetate of ammonia, the mineral acids, ipecac, castor oil, the saline cathartics, and occasionally calomel. He never uses either aconite or veratrum. He believes that the influence that these last remedies exert in lessening the muscular force of the heart, as well as the blood-pressure in the arteries and veins, is, in the vast majority of cases of febrile and inflammatory diseases in which they are prescribed, absolutely injurious.—Louisville Medical News, Dec. 14, 1878.

#### UREA FORMATION.

Professor Gamgee, of Owen's College, Manchester, has recently published an account of some new experiments to determine the seat of the urea formation in the body. The result is, the experiments have demonstrated that the liver is the principal if not the only organ of the body concerned in urea formation.—Louisville Medical News, Dec. 14, 1878.

#### ŒDEMA GLOTTIDIS.

Dr. Macewen showed a man whom he had treated for cedema glottidis, by the introduction of a tube into the trachea through the mouth. The patient, a working man, came home for dinner, and, being in a hurry, went into the kitchen and took a potato which had just been lifted from the pot—the boiling water having just been poured off. He took one up in his fingers, and finding it too hot, without thinking, threw it into his mouth and attempted to swallow it. It stuck in his throat and nearly suffocate: him, until it was scooped out by means of a spoon. A considerable portion of the mucous membrane was removed, and the parts had a hard thickened feeling and the appearance as if they had been burned. He was sent into the Infirmary at 1, A. M., accompanied by a line from Dr. McMillan of Paisley Road, who stated that it was an urgent case. It was such a case as would have required opening the windpipe, had the idea of the tracheal catheter not presented itself. Dr. Macewen having previously resolved to try the tracheal catheter in such cases, he passed, in the first place, through the glottis, a No. 12 gum-elastic catheter, and then a rectal tube with the end cut off and the edges pared. On the passage of the tube, the patient drew several deep inspirations and coughed for about two minutes. The patient held the tube in with his own hand for half an hour, when he drew it out in

order to cough, as he said; Dr. Macewen at once cleaned the tube and reintroduced it. It was kept in for twelve hours, cleaned and replaced, and at the end of thirty-six hours in all it was finally removed. The patient appeared to become used to the tube, and, towards the end of the period mentioned, he slept for four or five hours. The cedema was found to be so far reduced as not to require a longer use of the tube, and the patient made an uninterrupted recovery. Dr. Macewen said that was not the first time he had used a tube in the air passages. Some time previously, when repeating an operation described by Dr. Foullis in the British Medical Journal, October 12th, 1878, he had passed a tube into the glottis from the mouth, so as to occlude the air-passage and prevent the blood from flowing into it, instead of previously opening the cricothyroid membrane and plugging the larvnx, as Dr. Foulis did. He had been told that similar tubes had been in use by Desault and Bouchut in France, and he found that Trousseau had declared against their use; but it was evident to Dr. Macewen that these tubes were not intended to pass the glottis, and were mostly advocated for the purpose of insufflation of the lungs in young children. It was curious to note that, while the tube was in the glottis, the patient could drink and could say "Yes" and "No" quite distinctly. Dr. Macewen had put a tube into his own glottis, and found that he could breathe through it, though it was by no means a delectable sensation. regard to the uses of the method, he did not know whether it could be applied in the case of young children, who might not have strength to expel mucus through the narrow tube which would be required for them; but adults had no difficulty in expelling pellets of mucus through the tube with a sound like that of a cough. The advantages were that, in the country for example, a tube could be passed easily into the treachea from the mouth in cases where, from objections of the friends or want of assistance, tracheotomy could not be performed; or it might be passed as a temporary measure, pending arrangements for trachestomy. Again: the moist, warm interior of the tube would catch dust, which might find its way into the trachea by the ordinary tracheotomy-tube, and also, it being kept while in the body at the human temperature, would in this way heat the air before it entered the lungs. He thought also that death from chloroform sometime resulted from the falling back of the tongue over the larynx, and the introduction of the tube would avert that danger. Considerable salivation was set up by the tube in the mouth, but this ceased in a few hours. Of course, such a tube must not be left in longer than a short time. Cases taking a week or more would be better subjected to tracheotomy. If the danger were not over, then recourse should be had to tracheotomy.—Dr. Foulis had paid some attention to laryngeal diseases, and he was aware that the catheterism of the larynx and trachea, as it is termed by Malgaigne, was an easy operation. It was in use by Schrötter of Vienna, and others for the relief of chronic tracheal strictures. But, with regard to the propriety of pushing a rectal tube into an acutely inflamed larynx, and leaving it there for thirty-six hours, he was at varience with Dr. Macewen. The case seemed lo be analogous to that of an acutely inflamed urethra, where a surgeon would hesitate before leaving in a full-sized bougie for thirty-six hours. As to the case of cedema laryngis related by Dr. Macewen, it seemed to him that scarification of the ædematous parts of the mucous membrane would have been at once easy and effectual; and that the passage of the tube through the glottis, a place which was not affected in ædema laryngis, was not necessary. He alluded to a case, in illustration of the rapid and spontaneous relief of ædema laryngis, as further showing how a tube might be used in a superfluous manner. He referred to the directions for catheterism of the larynx, after Desault and Chaussier, given by Malgaigne in his Operative Surgery (translated by Brittan, 1846), and said that the method had evidently been in use by French surgeons in that day, and for some reason or other had been abandoned. Probably the points just noted might have influenced the question. Again, in cases of urgent dyspnoa and acute inflammation of the larynx, not amenable to scarification, he thought that a small opening ought rather to be made in the crico-thyroid membrane, through which a tube could be left in for a shorter or longer time. This was an extremely easy operation and very satisfactory. Several cases in which he had performed it had healed quickly, and with good results; and it afforded that perfect rest to the acutely inflamed larynx which could scarcely be possible with a large tube distending it -Dr, Hector Cameron said he quite agreed with Dr. Foulis in preferring the operation through the cricothyroid membrane in these acute cases, and he gave details of a case in which he had performed that operation with instant relief, and of another case in which a prolonged spasm had followed interference with the vocal cords. He thought spasm a not unlikely sequence of the proposed catheterism; adducing. in evidence of this, the case of a child who had introduced a bean into the trachea, and who died of spasm of the glottis, the bean not being large enough to cause anything like total obstruction of the trachea.—Dr. Macewen, in reply, said that he held to the opinion that the passage of the tube by the mouth was preferable to the introduction of one through an opening lower down. In the case of the urethra, though it was not advisable to introduce catheters during the inflammatory stages, where it was at all possible to avoid doing so, yet in certain cases it was imperative to introduce an instrument to relieve the bladder, and, by leaving this instrument in, good results followed—the inflammation not increasing, but diminishing. Regarding spasm of the vocal cords, mentioned by Dr. Cameron as likely to occur, he pointed out that the case mentioned by that gentleman was one in which a small body produced irritation and set up the spasm; but that, the tracheal tube being introduced beyond the vocal cords, he would not fear spasm as a result of withdrawal, but rather paralysis, if anything, especially if the instrument were retained in situ too long; and, on the other hand, as long as the tube remained in situ, it was a physical impossibility for the spasm to come on. As to scarification, the larynx in his case was not scarified.—British Medical Journal.

# Louisiana State Medical Society. ANNUAL SESSION OF 1879.

ABSTRACT OF PROCEEDINGS.

April 9th.—Morning Session.

Vice-President Bemiss in the chair.

Reverend H. M. Smith, D. D., opened the meeting with prayer.

Communications were received from Doctors J. C. Egan of Caddo (President of the Society) and O. P. Langworthy of East Feliciana, asking to be excused from attendance.

The gentlemen, whose names follow, were elected members.

Ascension: Dr. A. C. Love.

East\*Baton Rouge: Dr. R. H. Day.

Iberville: Drs. J. P. R. Stone, S. D. Swing.

Lafayette: Dr. J. P. Francez.

Lafourche: Drs. Gazzo, Sr., and Gazzo, Jr.

Orleans: Drs. T. S. Dabney, A. DeRoaldes, F. W. Parham, W. D. Vance, David Jamison, C. S. Mercier, B. A. Pope, H. L. Metcalff, Jno. M. Cullen, B. Stillé, T. P. McCutcheon, R. Sauvage, E. Dreifus, W. E. Schuppert, C. O. Langenbecker; John Johnson, Esq., Chemist.

Plaquemines: Drs. G. Farrar Patton, P. S. Carrington.

St. Mary: Drs. J. H. P. Wise, R. C. White.

St. Tammany: Dr. A. Givens.

Tensas: Drs. D. P. January, D. S. Newell, P. Chew.

The following named gentlemen were elected members by invitation.

Dr. Smith (Pass Christian, Miss.), Dr. Deloffre (U. S. A.), Dr. F. O. Fox (Ark.), Dr. Greensville Dowell (Galveston), Dr. Patrick, Dr. A. P. Hall (Mobile), Dr. Henry Stone (Ark.), Dr. Eustis, (Mobile).

Vice-President G. A. B. Hays in the chair.

Dr. T. G. Richardson, Chairman Committee of Arrangements, presented the report of the Committee, and invited the members to attend the exhibition of the Windhausen Refrigerating Machine, as well as the display of microscopical preparations due to the courtesy of Drs. A. W. Smyth, H. D. Schmidt, and G. Devron.

Dr. S. E. Chaillé, Chairman of the Committee on Constitution and By-Laws read the project of a new Constitution and By-Laws.

On motion, the Constitution and By-Laws, as read, were adopted provisionally, as a whole. They are to be published for distribution, accompanied by the Constitution of the State Medical Society of Alabama (the addition of this last being made on account of its excellence, and for the purpose of instituting comparison), and are not to be acted upon finally, until the next annual meeting.

The thanks of the Society were tendered the Committee, for the elaborately prepared Constitution and By-Laws, adopted as above.

The report of the Publishing Committee, Dr. Wm. H. Watkins Chairman, was read and adopted.

The following reports from Dr. S. S. Herrick, Corresponding Secretary, were read and adopted.

Report classifying medical practitioners in the State of Louisiana.

Report enumerating local medical societies in the State.

Report of Committee on Legislation and Legislative Enactments.

The report of the Recording Secretary was read and adopted.

The Treasurer's Report was read and adopted.

On motion, the meeting then adjourned.

April 9th.-Evening Session.

Dr. Bemiss in the chair.

Dr. Bemiss delivered an address explanatory of the objects and purposes of the National Board of Health.

The thanks of the Society were, on motion, tendered Dr. Bemiss.

On motion, the Society then adjourned.

April 10th-Morning Session.

Dr. Bemiss in the chair.

A communication from Dr. S. H. Rushing of Evergreen, (La.) was read and referred to the Legislative Committee.

A telegram expressive of sympathy and good feeling, addressed to this Society, was received from the State Medical Association of Alabama, now in session at Selma.

On motion, the Chairman was authorized to respond to this greeting, in fitting terms.

On motion of Dr. Chaillé, the Publishing Committee was authorized to publish a form or model of Constitution and By-Laws, for distribution, in order to facilitate the organization of Parochial Medical Societies.

Dr. Joseph Jones delivered a verbal report, illustrated by drawings and specimens, on the comparative pathology of yellow and malarial fevers.

Dr. W. G. Austin made a verbal report upon certain points in connection with yellow fever.

Dr. M. Schuppert read an elaborate report on the cure of oblique fractures of the femur, without shortening.

On motion of Dr. Gourrier, Dr. Schuppert's paper was referred to the Publishing Committee.

On motion the meeting then adjourned.

April 10th.—Evening Session.

Dr. Bemiss in the chair.

The annual orator, Dr. S. E. Chaillé, delivered an address on "State Medicine."

On motion of Dr. T. G. Richardson, the thanks of the meeting were tendered Dr. Chaillé, whose address is to published by the Society.

On motion, the meeting then adjourned.

April 11th.-Morning Session.

Dr. Bemiss in the chair.

On motion of Dr. M. Schuppert, 500 copies of Dr. Chaille's address were ordered to be printed for distribution.

The thanks of the Society were tendered Drs. Smythe, Schmidt and Devron, for their courtesy in connection with the display of microscopical preparations. A similar vote of thanks was also presented to the Directors of the Windhausen Rerigerating Machine Company.

Dr. Chaillé called the attention of the Society to the importance of endeavoring to obtain from the State Convention, soon to sit in this city, that a constitutional enactment relative to State Medicine be incorporated in the new constitution to be adopted in this State. In this connection Dr. Chaillé read a report of the Committee on State Medicine (of which he is Chairman), of the Orleans Parish Medical Society.

Dr. C. J. Bickham, who served with Dr. Chaillé on the Committee of the Orleans Parish Medical Society mentioned above, heartily seconded the remarks made by that gentleman on the subject of State Medicine.

On motion of Dr. Chaillé, the Society adopted the report of the Committee of the Orleans Parish Medical Society on State Medicine, and the same was ordered to be published with Dr. Chaillé's address.

On motion of Dr. S. Logan, the whole matter was referred to the Committee, which is to be appointed on State Medicine, with the qualification however, that as practical and speedy action is necessary, an auxiliary Committee of Volunteers be, at once formed.

The election of officers being now in order, the rules were suspended, in order that the election might be made viva voce.

Drs. J. W. Dupree, of Baton Rouge, and Sam'l Logan of Orleans, were nominated for the office of President,

Dr. Logan declined the nomination in favor of Dr. Dupree, who was unanimously elected.

Vice-Presidents—One Vice-President for each of the six Congressional Districts of Louisiana.

The following gentlemen were unanimously elected Vice-Presidents.

1st. Con	gressiona	al District:	Dr. Wilkinson, Sr.
2nd.	56	. 66 .	" J. P. Davidson.
3d.		66	" P. S. Postell.
4th.	66	66	" A. A. Lyon.
5th. •	6.	66	"P. Chew.
6th.	44	66	" O. P. Langworthy.
Recording Secretary,			" Thos. Layton.
Corresponding Secretary,			" S. S. Herrick,
Treasurer and Librarian,			" Geo. K. Pratt,

On motion of Dr. Richardson, the Rev'd H. M. Thompson D. D., was made an honorary member of the Society, and then elected Orator for the next session.

On motion, it was decided, that the next meeting of the Society should take place in New Orleans, at 11 o'clock, A. M., on the last Wednesday in March, 1880.

The following gentlemen were appointed delegates to the American Medical Association:

Drs. B. A. Pope, A. DeRoaldes and S. L. Henry, all of Orleans, and Dr. R. C. White, of St. Mary.

[Note—The names of 109 members are inscribed upon the roll of the Society.]

Dr. L. F. Salomon read a report based upon 14 cases of leprosy in this State.

The thanks of the Society were tendered Dr. Salomon for his report, and on motion, Dr. Salomon was appointed a Committee to continue the study of leprosy in Louisiana,

The Secretary, in the absence of Dr. J. D. Hammond, read a report, forwarded by that gentleman, on malarial hæmaturia.

The President, Dr. J. W. Dupree, announced the following Committees:

Arrangements: Dr. W. H. Watkins, Chairman, Drs. F. Loeber, Geo. K. Pratt.

Necrology: Dr. Wilkinson, Sr., Chairman.

State Medicine: Dr. S. E. Chaillé, Chairman.

(This Committee comprises 4 sub-divisions and an auxiliary Committee.)

(1) Public Institutions for the Sick and Infirm:

Drs. J. W. Dupree, R. H. Day, O. P. Langworthy, G. K. Pratt, A. B. Miles.

(2) Medical Education:

Dr. C. J. Bickham-Medical Education and Colleges.

Dr. Thos. Layton Laws Regulating the Practice of Medicine in Louisians

Medical Jurisprudence: (3)

Dr. W. H. Watkins-On Coroners.

Insanity. Dr. L. G. Perkins, Dr. J. D. Hammond.

(4) Public Hygiene:

Drs. S. S. Herrick, P. S. Carrington, Jos. Holt, J. H. P. Wise.

(5) Auxiliary Committee:

Drs. J. P. Davidson, T. G. Richardson, S. L. Henry, S. S. Herrick, Orleans. Thos. Layton, Sam'l Logan, A. R. Gourrier, C. W. Smith-St. Mary. P. S. Postell, | Iberville. A. B. Snell,

> — Wilkinson, Sr., Plaquemine. G. A. B. Hays,

A. Givens-St. Tammany.

- Gazzo, Sr.-Lafourche.

A. A. Lyon-Caddo.

S. O. Scruggs-Natchitoches.

T. J. Vance-Bossier.

J. L. Davis-Carroll.

Wm. Sandell-Ouachita.

P. Chew-Tensas.

Scientific Essays: - Dr. C. J. Bickham, Chairman.

" D. M. Clay-Caddo,

" G. A. B. Hays-Plaquemine.

" J. P. Davidson, / Orleans, " A. B. Miles,

Publication—Dr. S. M. Bemiss, Chairman. Judiciary—Dr. T. G. Richardson, Chairman. On motion, the Society then adjourned.

April 11th.—Evening Session.

Dr. J. W. Dupree in the chair.

On motion of Dr. T. G. Richardson, it was resolved that the Chair appoint a Committee of one, to confer with corresponding Committees of Medical Societies of Texas, Arkansas, Mississippi and Alabama, with a view to the formation of a Southwestern Medical Association.

The Chair appointed Dr. Richardson on this Committee.

At the request of Dr. S. L. Henry, Dr. S. M. Bemiss stated that there exists a disposition on the part of the National Board of Health, which considers itself a co-operative body, to receive assistance from this, as well as from other Medical organizations.

On motion of Dr. Richardson, it was resolved that this Society heartily approves of the formation of the National Board of Health, and pledges itself to co-operate with the said Board.

Dr. G. A. B. Hays called attention to telegrams announcing the reappearance of yellow fever on board the U. S. Man-of-War Plymouth, although the vessel had wintered in Portsmouth Harbor, and asked for information upon the subject. In reply, Dr. Bemiss stated that a commission has been appointed by the Secretary of the Navy, with the assistance of the National Board of Health, for the purpose of investigating the facts in this case, and that the results of the labors of this commission would be made public.

Dr. D. R. Fox read a report on the Topography and Medical History of the Parish of Plaquemine.

The thanks of the Society were voted Dr. Fox. and the Publishing Committee were instructed to publish the report.

Dr. Fox was requested to continue his researches upon the same subject, and report anew, at the next meeting.

On motion of Dr. Chaillé, the Committee of Arrangements were instructed to endeavor to induce the various lines of steamboats and railways leading to New Orleans, to reduce the rates of passenger fare on the occasion of the next annual meeting of this Society.

The gentlemen whose names are given below volunteered to read reports, at the next annual meeting, on the following subjects:

Dr. T. G. Richardson. Hydrophobia in Louisiana.

Dr. A. DeRoaldes, contribution to the Study of Medical Hydrology.

On motion of Dr. G. A. B. Hays, the thanks of the Society were tendered the President and members of the Committee of Arrangements for their labors to procure the success of this meeting.

On motion of Dr. S. L. Henry, the thanks of the Society were tendered the Press of New Orleans.

The newly elected President, Dr. J. W. Dupree, delivered an address of thanks for the honor conferred upon him, and dwelt upon the importance of the results to be achieved by the Society.

On motion, the Society then adjourned, to meet again in New Orleans, at 11 o'clock, A. M., on the last Wednesday in March, 1880.

THOMAS LAYTON, M. D.,

Recording Secretary.

## Bulletin of the Public Health.

Issued by the Surgeon General, United States Marine Hospital Service, under the National Quarantine Act of 1878.

No. 33. Week ending February 22d, 1879.

OFFICE SURGEON GENERAL, M. H. S. Washington, February 26, 1879.

Boston—Week ended February 22d. Deaths from all causes 139, an annual ratio of 20 per 1600 of the population. 14 cases of scarlet fever, 6 deaths; 20 cases of diphtheria, 7 deaths. Bronchitis caused 7 deaths, pneumonia 10, phthisis 31.

Providence—Week ended February 22d. Total deaths 29. Annual ratio 15. 1 death from diphtheria, 2 from scarlet fever.

New York—Week ended February 22d. Total deaths 551. Annual ratio 26.3. 3 deaths from enteric fever, 50 from scarlet fever, 15 from diphtheria, 18 from croup, 91 from pneumonia and bronchitis, 92 from phthisis.

Brooklyn—Week ended February 22d. Total deaths 210. Ratio 19.34. 83 cases of scarlet fever, 9 deaths; 40 cases of diphtheria, 11 deaths, 3 deaths from enteric fever, 31 from

acute pulmonary diseases, 26 from phthisis.

Buffalo—Week ended February 22d. Total deaths 36. Annual ratio 13. 4 deaths from scarlet fever, 5 from diptheria,

2 from enteric fever, 16 from phthisis.

Philadelphia— Week ended February 22d. Total deaths 353. Annual ratio 21.2. Enteric fever caused 10 deaths, scarlet fever 7, diphtheria 15, whooping cough 4, acute pulmonary affections 55, phthisis 55. "Pulmonary affections prevalent, diphtheria increasing."

Pittsburg—Week ended February 22d. Total deaths 45, Annual ratio 16. 1 death from enteric fever, 1 trom scarlet

fever, 6 from dipl:theria.

Baltimore—Week ended February 22d, Total deaths 131. Annual ratio 18.66. Enteric fever caused 3 deaths, scarlet fever 3, diphtheria 3, croup 6, acute pulmonary diseases 22, phthisis 29.

District of Columbia—Week ended February 22d. Total deaths 75. Annual ratio 24.3. Enteric fever caused 2 deaths, scarlet fever 6, diptheria 1, acute pulmonary diseases 13,

phthisis 13.

Hudson County, N. J. (including Jersey City and Hoboken.)—Week ended February 22d. Total deaths 71. Annual ratio 19.6. Scarlet fever caused 6 deaths, diphtheria 4, acute lung affections 13, phthisis 8.

Richmond-Week ended February 22d. Total deaths 29.

Annual ratio 18.20. 6 deaths from scarlet fever.

Cincinnati—Week ended February 22d. Total deaths 101. Annual ratio 19. 13 deaths from scarlet fever, 1 from diphtheria.

St. Louis—Week ended February 22d. Total deaths 110. Annual ratio 11.4. Enteric fever caused 2 deaths, diphtheria 1 death.

San Francisco—Week ended February 14th. Total deaths 85. Annual ratio 14.5. Enteric fever caused 2 deaths, diphtheria 3, pneumonia 16, phthisis 8.

Mobile-Week ended February 22d. Total deaths 21. An-

nual ratio 27. Acute lung diseases 4 deaths.

New Orleans—2 weeks ended February 23d. Total deaths 189. Annual ratio 23.4. Diptheria caused 3 deaths, acute lung diseases 29, phthisis 39.

Island of Burmuda—In a population of 15,300 during the 6

weeks ended February 18th, there were 15 deaths, over 50 per cent. being of persons over 80 years of age.

Havana—Week ended February 22d. Yellow fever caused

1 death, small-pox 13.

Small-pox is very prevalent in Cuba, Brazil, Dublin, London, St. Peteresburg, and the ports of India, and less so at Buda Pesth, Vienna, Paris, Barcelona.

The Spanish quarantine authorities report that cholera exists,

and is increasing in Turkey and Asia.

On account of the extremely virulent and contagious character of the disease that has prevailed in southern Russia, and the evidence pointing to its introduction from the east by commercial traffic, it is recommended that the health authorities of American ports exercise a close supervision over the importation of rags and similar substances, known to be effective carriers of contagion, arriving on ships from the Black Sea,

and Mediteranean ports.

From the reports of the American diplomatic agents and other official sources, sufficient facts have been gathered to strongly establish the probability of the epidemic disease prevailing in southern Russia, being a limited but very virulent outbreak of plague, and not simply malignant typhus as stated in the first official reports of the Russian medical officers. True plague has prevailed for two years in portions of Persia that were in constant communication with the villages of Astrakan, where the disease first appeared. The report of the chief medical officer of Astrakan states that an intermittent fever, accompanied with suppurating glandular swellings prevailed at Wetlyanka in November, 1878. The tendency of the disease was towards recovery up to December 1st, when the fever assumed a malignant paroxysmal type, causing death in from 12 to 48 hours. Up to December 1st the mortality averaged nearly 50 per cent., then rapidly increased until, on the 29th, it had attained 100 per cent., death resulting in every case. The most approved treatment was employed without benefit. Nearly all who came in contact with the sick, died, including 7 army surgeons, the priest, the nuns who nursed the sick, and the Cossacks who buried the dead. Early in January the government established a military cordon around the infected villages in the valley of the Volga. Up to February 1st no authentic cases had been reported outside of this district. The Governor of Astrakan has been directed to burn the infected places, if necessary, the inhabitants to be removed to other quarters within a quarantine circle, and compensated. The German and Austrian governments have prohibited the importation of skins, furs and rags from Russia, and railroad cars arriving from thence are disinfected at the frontiers. At the last official advices the virulence of the disease was diminishing at all the infected points.

## No. 35. March 8, 1879.

Boston—Week ended March 8th. Deaths from all causes 162. An annual ratio of 23 per 1000 of the population. 13 cases of scarlet fever, 3 deaths; 11 cases of diphtheria, 5 deaths. Enteric fever caused three deaths, pneumonia and bronchitis 26, phthisis 34.

Providence—Week ended March 8th. Total deaths 37. Annual ratio 19.2. Scarlet fever caused three deaths, diphtheria

2, acute pulmonary diseases 7, phthisis 6.

New York—Week ended March 8th. Total deaths 555. Annual ratio 26.5. Diphtheria caused 15 deaths, croup 14, scarlet fever 60, acute lung diseases 105, whooping cough 17, phthisis 85.

Brooklyn—Week ended March 8th. Total deaths 229. Annual ratio 21.09. 79 cases of scarlet fever, 19 deaths, 42 cases

of diphtheria, 5 deaths, acute lung diseases 43.

Hudson County, N. J.—Week ended March 8th. Total deaths 71. Annual ratio 19.5. Scarlet fever caused 7 deaths, diphtheria 2, acute lung diseases 10.

Buffalo--Week ended March 8th. Total deaths 33. Annual

ratio 12. Scarlet fever caused 12 deaths, diphtheria 3.

Philadelphia—Week ended March 8th. Total deaths 311. Annual ratio 18.4. Scarlet fever caused 10 deaths, diphtheria 9, enteric fever 7, acute lung diseases 42. "Health of city improving. Pulmonary diseases diminishing."

Pittsburgh—Week ended March Sth. Total deaths 60. Annual ratio 21.5. Enteric fever caused 3 deaths, diphtheria 6. Baltimore—Week ended March Sth. Total deaths 140. An-

nual ratio 20. Diphtheria caused 5 deaths, scarlet fever 7, acute lung diseases 26.

District of Columbia—Week ended March 8th. Total deaths 77. Annual ratio 25. Scarlet fever caused 4 deaths, diphthe-

ria 1, acute pulmonary diseases 28, phthisis 11.

Richmond—Week ended March 8th. Total deaths 38. An-

nual ratio 25. Scarlet fever caused 2 deaths.

Savannah -- Week ended March 7th. Total deaths 16. (4 whites, 7 colored). Annual ratio for whole population 30.

Cleveland—Week ended March Sth. Total deaths 52. Annual ratio 16.7. Scarlet fever caused 2 deaths, diphtheria 4.

Louisville—Week ended March 8th. Total deaths 45. Annual ratio 14. 1 death from zymotic disease (enteric fever), 15 from acute lung diseases.

St. Louis - Week ended March 8th. Total deaths 108. Annual ratio 11. 1 death from enteric fever, 1 from diphtheria.

San Francisco—Week ended February 28th. Total deaths 88. Annual ratio 16.4. Diphtheria caused 2 deaths, acute lung diseases 12, phthisis 22.

New Orleans—2 weeks ended March 9th. Total deaths 164. Annual ratio 20. Malarial fevers caused 2 deaths, acute

lung disease 31, phthisis 28.

Havana—Weeck ended March 8th. Yellow fever caused 2 deaths, small-pox 8.

The reported prevalence of yellow fever, or of some disease closely related to it, at various points in the Southern States is not substantiated by any reliable evidence, but, on the contrary, careful inquiries made by Health Officers show that the state of the public health throughout the South during the past season has differed from that of corresponding seasons only in the greater prevalence of acute affections of the respir-

atory organs.

Great Britain—Week ended February 22d. Average mortality in the 23 large towns 26 per 1000, being 21 in Edinburgh, 24 in Glasgow, 24 in London, 36 in Liverpool, 38 in Dublin, 39 in Manchester. Whooping cough prevailed with marked fatality in London, Manchester and Sheffield. Small-pox caused 82 deaths in London during the past 4 weeks, and 353 cases of the disease were under treatment in the hospitals on February 22d. Small-pox caused 16 deaths in Dublin during the week.

The Spanish Government has established quarantine for all vessels coming from Brazil, on account of the prevalence there

of vellow fever and small-pox.

Asiatic cholera has not prevailed at any of the ports of Morocco since December 1st, and clean bills of health are issued to all vessels, but at Mogador, a malignant form of diarrhoa is very prevalent, and has caused great mortality among the natives on account of their unsanitary mode of life. No accurate statement of mortality can be obtained, as the recording of deaths is in conflict with the Mohammedan tenets.

The Governor of Astrakan announces officially that the late virulent outbreak of the plague in that province has expired within the district included in the military cordon. The number of deaths at Wetlyanka was six dred. The normal population of this village was 1700, and almost every person who had not fled before becoming infected was attacked by the disease and died. There is no announcement of the orders for the burning of the infected places having yet been carried out. The restriction of the disease to the original limits has been greatly favored by the natural isolation of the infected places, and the slight traffic existing in the district. the inhabitants but rarely leaving their villages, especially during the winter. Since the beginning of the outbreak, the principal road through the province has been obstructed, and all travel has been compelled to take a wide detour through the steppes. Strict quarantine regulations have been established at all the ports of the Continent for vessels and goods coming from the Black Sea, and at the British ports the sanitary condition of all vessels arriving thence is carefully inspected.

The sanitary condition of most of the cities of Eastern Enrope is being improved in view of the possible extension of

the plague on the advent of warm weather.

### No. 36. March 15th, 1879.

Boston—Week ended March 15th. Deaths from all causes 159, an annual ratio of 22.6 per 1000 of the population. 16 cases of scarlet fever, 5 deaths; 22 cases of diphtheria, 4 deaths. Bronchitis caused 13 deaths, pneumonia 18, phthisis 32.

Providence—Week ended March 15th. Total deaths 39. Annual ratio 20. Enteric fever caused 1 death, scarlet fever 1, diphtheria 3.

New York—Week ended March 15th. Total deaths 604. Annual ratio 28.8. Scarlet fever caused 54 deaths, diphtheria 12, enteric fever 4, pneumonia 81, bronchitis 28, whooping cough 16, phthisis 104.

Brooklyn—Week ended March 15th. Total deaths 239. Annual ratio 22. 82 cases of scarlet fever, 17 deaths; 25 cases of diphtheria, 14 deaths. Croup caused 6 deaths, bronchitis 11, pneumonia 34.

Rochester—Week ended March 15th. Total deaths 53. Annual ratio 30. Small-pox caused 1 death, scarlet fever 1. No case of small pox in the city at present.

Pittsburgh—Week ended March 15th. Total deaths 54. Annual ratio 12.5. Enteric fever caused 1 death, scarlet fever 1, diphtheria 5.

Baltimore—Week ended March 15th. Total deaths 135. Annual ration 19. Enteric fever caused 3 deaths, scarlet fever 7, diphtheria 4, bronchitis 11, pneumonia 13.

District of Columbia—Week ended March 15th. Total deaths 91. Annual ratio 29.5. Enteric fever caused 1 death, searlet fever 1, acute lung diseases 25.

Cleveland—Week ended March 15th. Total deaths 69. Annual ratio 22. Enteric fever caused 1 death, scarlet fever 2 deaths, diphtheria 2 deaths.

Chicago—Week ended March 15th. Total deaths 156. Annual ratio 17.8. Enteric fever caused 2 deaths, scarlet fever 5, diphtheria 13.

Cincinnati—Week ended March 15th. Total deaths 112. Annual ratio 21. Typhus fever caused one death, searlet fever 18, diphtheria 3, whooping-cough 4.

Hudson Co., N. J.—Week ended March 15th. Total deaths 72. Annual ratio 19. Scarlet fever caused 5 deaths, diphtheria 1, enteric fever 2, acute lung diseases 16.

Buffalo—Week ended March 15th. Total deaths 36. Annual ratio 13. Scarlet fever caused 4 deaths, diphtheria 5, croup 3 deaths.

Philadelphia—Week ended March 15th. Total deaths 284. Annual ratio 17. Enteric fever caused 6 deaths, scarlet fever 12, diphtheria 5, croup 5, acute lung diseases 38.

Richmond—Week ended March 15th. Total deaths 33. Annual ratio 21.7. Scarlet fever caused 3 deaths.

Savannah—Week ended March 14th. Total deaths 13, (5 whites, 8 colored). Death rate for whole population 27.

Louisville—Week ended March 15th. Total deaths 43. Annual ratio 14. Scarlet fever, enteric fever, diphtheria, each

caused 1 death, croup 2, acute lung diseases 9 deaths.

St. Louis—Week ended March 15th. Total deaths 102. Annual ratio 17.1. 6 deaths from enteric fever, 12 from scarlet fever, 5 from diphtheria, 5 from croup, 38 from acute lung diseases.

San Francisco—Week ended March 7th. Total deaths 74. Annual ratio 12.6. Diphtheria caused 2 deaths, acute lung

diseases 6, phthisis 20.

New Orleans—Week ended March 9th. Total deaths 87. Annual ratio 21. "Congestive malignant fevers" caused 2 deaths, acute lung diseases 17.

Havana-Week ended March 15th, yellow fever caused 1

death, small-pox 18.

Montreal—Week ended March 8th. Total deaths 63. Annual ratio 27.2; small-pox caused 9 deaths, diphtheria 3, enteric fever 1 death.

Great Britain—Week ended March 1st. The average mortality in the 23 large cities was 27 per 1000 of the population. Rate at London 25.5, Edinburgh 23, Glasgow 29, Dublin 43, Liverpool 34, Plymouth 18, Brighton 18, Bristol 19. Smallpox caused 22 deaths in London, 1 in Manchester, and 19 in Dublin.

Paris—Week ended February 27th. Total deaths 1026. Annual ratio 26.8; small-pox caused 14 deaths, enteric fever 25 deaths.

German Empire—Week ended February 22nd. In 150 towns the average death rate was 27.7. Rate at Munich 33.4, Dresden 30.3, Berlin 23, Hamburgh 29, Cologne 28, Frankfort 18.4, Strasburg 36.5, Leipzic 26.

Vienna—Week ended February 22nd. Total deaths 432. Annual ratio 30.5. Small-pox caused 19 deaths, diphtheria 14. St. Petersburgh—Week ended February 15th. Total deaths

615. Annual ratio 47.7. Small-pox caused 41 deaths, fevers 44. The U.S. Consul General at Constantinople reports that the health of that city and its precincts is in a favorable state, and that the reported occurrence of cases of plague in European Turkey have arisen from the prevalence of malignant typhus in the provinces devastated by the late war. The retreat of the Turkish armies was attended by great privation among the refugees who accompanied them, and among the inhabitants of the provinces through which they passed; much distress and sickness have ever since prevailed there, but no authenticated cases of plague have occurred. No new cases of the plague have occurred in the province of Astrakan, but the military cordons are still maintained, the infected villages are being thoroughly cleansed, and means taken to completely exterminate the disease. Much anxiety is felt, however, lest on the breaking up of the ice in the Volga and the liberation of the innumerable small craft that have been frozen up at Astrakan and other points, that the disease may be spread by their movements. The past winter was the mildest in the memory of the inhabitants, and it is feared that the virus of the disease may survive the influence of the few short spells of cold weather that have occurred.

The bark "Sleipner" arrived at Port Eads, below New Orleans, on March 14th, from Rio de Janeiro. During the 61 days passage, all of the crew suffered from yellow fever; 3 died and 1 is still sick. The vessel was immediately towed to the Quarantine Station.

J. B. HAMILTON,

Surgeon U. S. Marine Hospital Service.

# EDITORIAL.

# Disinfection by Cold.

The germ theory as applied to many diseases, is ingenious and plausible, and also extremely probable. But it occasions some inconvenience to the medical theorist when it is suddenly bumped against him, in the way of demanding a solution to the many questions which grow out of its adoption. Our clients, or the interested public say to us, "if the cause of yellow fever is an organism, why do you not destroy it? We, go to the druggist and buy our bed-bug poison and get rid of the insect which "murders sleep." Even the proverbially omniverous cockroach, is not a Mithridates, but succumbs to his special venom, why have not your profession discovered and applied the specific poison to the yellow fever germ?"

The question as applied to our profession is eminently a proper one. It is a great leading duty on our part to prosecute research, and put into practice experiment until this desired end is reached.

While this is a consummation not within the boundary of any present horizon of human view, it is still not beyond the reach of rational expectation and hope. But we think that the laity should be made to understand the difficulties which surround any question, or efforts, looking to the destruction of the infinitely minute in life. It may be a rudely truthful axiom, that in life the battle is usually decided in favor of the strong, but an Omniscience far beyond all earthly scrutiny, has

so constructed many tribes of the weak and small that two coincident provisions are absolute guards against their final destruction. These are, first, powers of multiplication so prodigious, that if myriads upon myriads are swept away, other and more countless myriads survive; second, powers of resistance to injury by numerous agents which are detrimental to higher organisms. Here then are exactly the difficult points of the problem; to know in the first instance the locality or fomites in which the supposed living contagium is situated; next the agents which are specially destructive of its vitality, or virulence, if the two should be separable. In the natural history of yellow fever, we everywhere and in all times, observe that epidemic visitations cease with the appearance of frost. We believe that we are justifiable in making a still more precise statement in respect to the effects of a natural low temperature; namely: that the further evolution of the poison is arrested, and that whatever may have been matured at the time of the fall of the temperature is rendered innocuous. But this occurs only in those places and under those circumstances where no protection is afforded from the cold.

According to our doctrine, yellow fever miasm is unlike marsh miasm in the fact that while both are rendered innocuous by cold, the latter is resuscitated after exposure to a winter's cold, while the former is totally and forever destroyed if sufficiently exposed. Many observations have made our profession sensible of the fact that cold to any reasonable degree or probably, any degree, does not modify the human constitution so as to render it impervious to a live infection of yellow fever. Attacks have occurred in the dead of winter when unacclimated persons have gone into the holds of infected ships. into infected rooms, -in one instance into an underground cistern on a lot where the disease had prevailed in the previous summer and autumn. This looks like such a plain lesson that people naturally ask why artificially produced cold is not a perfectly reliable formula for the destruction of yellow fever poison?

We think that our profession should speak hopefully of the results of properly directed experiments with artificial refrigera-

tion. But it should be remembered that as yet we have nothing definite upon which to base conclusions. Experiments upon microscopic cryptogams are inconclusive, because it is now well understood that every degree of difference in resistance to destruction, obtains in the different varieties of organisms constituting the world of microzoa. More than that, it may be that we must study in a closer manner the laws of radiation in relation to the rapidity or slowness with which changes of temperature are to be produced, and the length of time cold should be applied to ensure devitalization of germs of disease.

The subject is an important one as a mere abstract question of science. It is rendered the more important since scores of inventors and proprietors of ice machines, and every sort of apparatus or device for reducing temperature, are now besieging Congress and the National Roard of Health, each urging the adoption of his instrument or scheme.

It is a proper field for experimentation, but no conclusions can be reached respecting the best mode of applying cold or its efficiency in destroying yellow fever poison, short of numerous patient and skillful trials upon baggage, goods, rooms or holds of ships known to be infected at the time of experimenting, or immediately before, and then ascertaining the results by the subsequent history of the material or locality experimented upon.

#### IBERVILLE MEDICAL ASSOCIATION.

The following named physicians of the parish of Iberville met at the residence of Dr. S. D. Schwing, in Plaquemine, on Saturday, March 8, 1879, for the purpose of organizing a Medical Association for the parish of Iberville:

J. P. R. Stone, S. D. Schwing, P. S. Postell, Romain Schlater, M. J. Lehman and A. B. Snell.

Dr. Snell was called on to preside as temporary chairman, and Dr. Schwing as temporary secretary.

Dr. Snell explained the object of the meeting, when on motion of Dr. Postell, it was resolved to go into permanent organization, and he presented the name of Dr. J. P. R. Stone,

as the first annual president. Dr. Stone was elected by acclamation. Dr. A. B. Snell was then elected secretary and treasurer.

Dr. Stone, upon accepting the first presidency, thanked the society for the compliment conferred upon him and in a few graceful and touching remarks alluded to the steadfast devotion of the physicians to the sick and dying during the late epidemic, and said such heroism has only met its reward in the grateful hearts of an afflicted people. It was then

Resolved, That the By-Laws and Code of Ethics of the American Medical Association be recognized and adopted by this association. It was also

Resolved, That the president appoint a committee of two to receive applications for membership from members of the profession of the parish who may desire to join, and who are unavoidably absent. The president appointed Drs. Schwing and Postell on said committee. It was also

Resolved, That any member who desires to be an accredited delegate to the State Medical Association, which meets in New Orleans, on the second Wednesday of April, shall, upon application to the president receive his credentials.

Resolved, That meetings shall be held annually, due notice of the time and place to be given by the president.

Resolved, That the proceedings be published in the Iberville South and the New Orleans Medical and Surgical Journal.

The meeting then adjourned.

J. P. R. STONE, M. D., President,

A. B. SNELL, M. D., Secretary.

# REVIEWS AND BOOK NOTICES.

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Diphtheria. Its Nature and Treatment. Varieties and Local Expressions. By Morell Mackinzie, M. D., London, Senior Physician to the Hospital for Diseases of the Throat and Chest. Pp. 104, 8 vo. Lindsay & Blakiston. Phil. Armand Hawkins, 1962 Canal Street, New Orleans, La., 1879. Price 75 cents.

This little work, on such an important disease, by so eminent a specialist as Dr. Mackinzie cannot fail to occupy the attention of the profession.

The history and definition of the disease is elaborate without being tedious. The different forms or types of the affection are systematically given, and in the treatment he passes in review almost all the vaunted remedies, having tried the majority of them. The chapter on treatment closes with the author's treatment of a typical case and is as follows:

A child is attacked with a sore throat during an epidemic of diphtheria, and an examination of the fauces shows that the disease has already commenced, thin patches of false membrane being present. The little patient should at once be put to bed in a large, well-ventilated room, and should at once be put to bed in a large, well-ventilated room, and should be made to suck ice constantly, whilst a bladder of ice should be applied to the neck. A simple but highly-nonrishing diet of beef tea, eggs, etc., should be ordered, and stimulants as a rule be given from the very commencement. If there be evidence of primary blood-poisoning, twenty to thirty crops of the tineture of perchloride of iron and the same quantity of glycerin and five to ten grains of chlorate of potash, in harf an ounce of water, should be administered every three hours; if, on the other hand, the catarrhal symptoms be very marked, the balsamic treatment should be tried, and a capsule or perle of copaiba containing four minims of the balsam should be given every four or six hours. Local solvents should now be employed, and the throat should be sprayed every two or three hours with lactic acid solution, or, if the child will not allow this to be done, the pharynx must be forcibly swabbed with this remedy, or the syrup of hydrate of chloral may be applied in the manner already advised. If, in spite of this treatment, the disease advances, and the false membrane becomes thick and abundant, it should be painted with an ethereal solution of tolu (1 in 5), the surface of the false membrane being first dried with blotting paper. This application, if thoroughly made, need not be applied more than once, or at the most twice, a day. Ice should now be given up, and warm invalations, made antiseptic from time to time, constantly employed, by means of the croup-test, in order to bring about suppuration and  $c_a$  use the false membrane to separate by the normal pathological process. It is useless continuing the coparba any longer, and the iron often appears to lose its effect. It is at this period that the sulphocarbolates sometimes have a wonderfully beneficial effect, and at this stage also quinine, in large dose, may be given at the same time with advantage. If the disease extend to the larynx or nose, the appropriate treatment leneatier detailed should be pursued. The third stage being characterized in favorable cases by the natural tendency to the separation of false membrane, the hot inhalations must be industriously continued, whilst the patient's strength is kept up by the use of highly nutritive drinks and stimulants. Such is the plan of treatment that may be pursued in an ordinary case of diphtheria. Complications of course require special remedies, and the seque æ need appropriate restorative measures.

The impaired innervation of the lungs, which proves fatal in so many cases of diphtheria, is difficult to cope with. The most reliable measures consist in the assiduous administration of food and stimulants. The inhalation of weak ammonia has been recommended to meet this condition.

During convalescence the patient must still be carefully watched. The weakness and anomia are best treated by iron and other tonics, by codliver oil, at d by residence at some bracing watering-place. These measures are also appropriate in some cases of muscular paralysis, but they then require to be supplemented by other therapeutic measures, according to the special symptomatic indication. The slight palsy of the pharynx and soft palate which is the commonest form of post-diphtherial paralysis, generally passes off in a few weeks without treatment. Where, however, there is marked loss of the power of the pharynx, epiglottis, or esophagus, so that the food is only swallowed with great difficulty, it may be necessary to feed by means of the esophageal tube; indeed, this procedure may

be absolutely necessary to prevent the patient dying from inanition' In less extreme cases the use of the feeding-tube will serve to prevent the food from passing into the larynx, an accident which is likely to be followed by inflammation of the lungs, and is always a tended with great dauger to the life of the patient. Sometimes it is sufficient to feed the patient on thickened liquids. When the paralysis is obstinate, and when it extends to the muscles of locomotion, the employment of electricity is indicated. Both the faradic and galvanic currents are useful, but they should be applied in a mild form. For the extremities, this may be combined with friction and shampooing of the affected parts.

Dr. M. holds the opinion that croup and diphtheria are identical, and however much American authority differs there are strong arguments brought in favor of the unity of the diseases.

The National Dispensatory. Containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized in the Pharmacopæias of the United States and Great Britain. By Alfred Stillé, M. D., LL. D., Prof. of Theory and Practice of Medicine and of Clinical Medicines in the University of Pennsylvania, etc., and John M. Maisch, Ph. D., Prof. of Materia Medica and Botany in Philadelphia College of Pharmacy; Secretary to the American Pharm. Association. 8vo. pp. 1628. Two hundred and one illustrations. Philiadelphia: Henry C. Lee. New Orleans: Armand Hawkins, 199½ Canal street. Extra Cloth, 6 75; Leather, 7 50.

The work under consideration we find more complete and convenient than the U.S. Dispensatory. It contains a larger number of crude drugs, and a fuller list of chemical and pharmaceutical preparations, together with the more important medicines of the French Codix and German Pharmacopæia, often prescribed in this country, and with such preparations the American pharmacist is frequently unacquainted. At the same time a number of pharmaceutical preparations are omitted, which have been largely in use for the past few years; for instance, elixirs, medicated syrups, vegetable and chemical, medicated wines, emulsions, pills, and a few compound powders. As a good many of the so-called elegant preparations so largely prescribed are manufactured by large firms, and their name usually specified by the physician, it is easy for the druggist to dispense such prescriptions, but by so doing he makes himself only a vendor of medicines. Therefore it would be preferable for the pharmacist to have described in such a work the proper formulary for these preparations, and have a yearly list of new remedies and their preparations published by the editors of an officinal Dispensatory.

The alphabetical order of arrangement is very convenient for reference; the title of each article is followed by its synonym in English, German and French. The illustrations of drugs and plants, by which their external and internal characteristics, may be identified and distinguished from those bearing close resemblance, add to the value of the work.

Chemical formulas are expressed in the new notation. The means of detecting adulterations and impurities are pointed out.

In reference to preparing fluid extracts, the suggestions are very practical: for instance, the process repercolation, recommended by Dr. Squibb. The results of experiments in regard to the physiological action of medicines are clearly stated.

The therapeutical index is novel and complete, and very convenient to the practitioner; but to the apothecary it is a temptation to go outside his department and assume the role of physician. Just complaint is made that counter prescribing is hazardous to the patient and unjust to the physician, but here we have a work giving such information as will tend to cultivate the practice.

The appendix gives a list of general reagents and test solu-

The metric system of weights and measures is fully described and its adoption urged. We hope the time will soon come when its general use in this country will be established.

C. L. K.

Medical Chemistry, including the Outlines of Organic and Physiological Chemistry, based in part upon Riche's Manual de Chimie. By C. Gilbert Wheeler, Prof Chemistry, University Chicago, formerly Prof. Organic Chemistry, Chicago Medical College. 12 mo, pp. 424. Philadelphia: Lindsay & Blakiston. Chicago: S. J. Wheeler. 1879.

Inorganic chemistry is omitted from this work, consequently it is not intended for tyros. The two principal parts treat of vegetable and animal chemistry respectively, and with suffi-

cient fullness for the needs of the medical student and practitioner. Indeed, the former might, in this country at least, well dread a strict examination upon the contents of this book.

Chemical analysis also is entirely omitted, as is quite proper, for the science and art of chemistry have become quite too extensive for consideration in one volume.

The centigrade thermometer and the metric system of weights and measures are used, unless otherwise specified.

The book is provided with a good index, its mechanical execution is creditable to the publishers, and the contents will be found to give in convenient shape the present state of what is known on the two branches of chemistry here considered.

S. S. H.

Transactions of the New Hampshire Medical Society, 88th Anniversary, held at Concord, June 18th and 19th, 1878. Pp. 205.

The address of the President, Dr. L. M. Knight, of Franklin, was devoted to the commemoration of the most eminent medical men of the State, now deceased; an able paper, and valuable as a contribution to history.

Dr. J. P. Bancroft makes a just plea in behalf of the pauper insane of New Hampshire, and recommends that they be removed from the county almhouses to a State asylum for their special accommodation, according to the custom in most other States.

In the paper of Dr. E. E. Graves, on "Some of the Risks and Responsibilities of the Profession," we are glad to find that medical men are privileged to withhold the secrets of their patients in courts of justice in the following States: Arkansas, California, Indiana, Iowa, Michigan, Missouri, Minnesota, New York and Wisconsin; provided, such communications be "essential to the treatment of the patient's case, and be of a lawful character, and not against morality or public policy."

In a paper entitled "The Reasons for Modern Alcoholic Stimulation Examined," Dr. T. J. W. Pray examines the familiar question of the change of type in disease, quoting from numerous eminent writers. The following briefly expresses his conclusion:

"Disease, then, has been modified by the intelligent action of our profession; but to say there is change in its type, im-

plies that there are constitutional changes in all persons. It cannot be affirmed that we have deteriorated in any respect as a people in bodily force. In the war of the rebellion, soldiers, North and South, performed marches, suffered deprivations, and endured hardships, that would have thrown into the shade those of Cæsar, Hannibal, and Napoleon Bonaparte. Fatigue was not a prominent complaint. The farmer, mechanic, and day laborer, in city, town, and country, are just as capable of meeting their wonted tasks as those of a century ago. Our young men and old are not bowed down by feebleness, nor by the entailment of constitutional weakness. The cares of business, the constant wear and tear of body and mind, do not make greater inroads upon the health. Besides puerperal and accidental hemorrhages, capital operations in surgery, are just as well borne to day as they ever were. We are not a nation of invalids. We have as strong men, healthy men, as ever walked the earth; and there is no evidence of decay in muscular power or endurance. Sikness has not increased; in fact, the average length of life has lengthened.

If there is a change in type, when, and in what diseases is it found? Small-pox, typhus fever, dysentery, measles, diphtheria, and the like, always remain the same as to their essential characters, only qualified by depraved conditions of the system. Certainly this change is not in phthisis pulmonalis, for this is no more virulent; its subjects live as long and bear up as well against its insidious encroachments. There is no asthenic condition of the system here more than formerly, and the disease has not been on the increase. Nor do the diseases of the nervous system predominate over former years; and yet the assertion is confidently made, that there has been a progression in the number of these diseases. Statistics do not

sustain this view."

Dr. D. S. Adams considers the pathology of Carcinoma, principally in reference to its constitutional or local origin, and refers to numerous authorities on both sides. From the favorite localities of the affection, varying in the two sexes, but according to their liability to disturbing influences, he inclines to the opinion that it results rather from local than constitutional causes.

Dr. L. D. Bulkley, of New York, contributes a paper on "The Use of the Solid Rubber Bandage in the Treatment of Eczema and Ulcers of the Leg."

These articles are all of interest, and above the ordinary standard of those found in similar volumes.

S. S. H.

Medical Communications of the Massachusetts Medical Society. Vol. XII, No. IV, 1878. Second series, vol. VIII, part IV. pp. 134.

The first paper is by Francis Minot, M. D., on Ethics and Hygiene; the first part of the subject touching upon medical education and the admission of women to professional fellowship; the second upon lying-in hospitals, cemeteries, and school-rooms. These points are ably presented.

The second paper is on the Identification of the Human Skeleton; a Medico-legal Study. The essay is divided into chapters, as follows: I. Are the bones human? II. Do the bones belong to one individual? III. The Sex. IV. The Age. V. The Time since Death. VI. The Estimation of the Height. VII. The Proportions of the Body. VIII. Missing Parts. This paper received a prize from the Society, and has been issued separately. It will be found highly useful by coroners particularly.

An article follows on Floating Spleen, by Dr. F. C. Shattuck. Then one by T. M. Rotch, M. D., on Absence of Resonance in the Fifth Right Intercostal Space Diagnostic of Pericardial Effusion. His object is, to show that this condition is more valuable as a diagnostic mark than pyramidal enlargement of præcardial dullness on the left side, as the latter is quite apt to result from hypertrophy and dilatation of the heart.

The last article is on Reflex Symptoms in Hip Disease, by Edward H. Bradford, M. D.

The above named papers well sustain the high standard hitherto achieved by the Massachusetts Society. S. S. H.

Transactions of the Medical Society of the State of Pennsylvania, at its Twenty-Ninth Annual Session held at Pittsburg, May, 1878. pp. 511.

It would be quite impracticable to notice all the papers in this bulky volume, even by title, consequently a few only will be selected.

Dr. John T. Carpenter contributes a remarkable article on the Local Origin of Constitutional Diseases. Eight important maladies are presented as examples: (1) Small pox; (2) yellow fever (both invading the liver primarily); (3) diphtheria; (4) typhoid fever; (5) pulmonary consumption; (6) scrofula; (7) pyæmia (these two last having no uniform local seat, though restricted in locality at an early stage); (8) the anæmias. Dr. C. does not include carcinoma, perhaps because he cannot establish priority of claim as regards this. He does not indeed claim originality for his doctrine; though, as far as we are informed, he is fairly entitled to do so.

A committee, composed of Drs. Hiram Carson, A. Nebinger and R. L. Sibbet, report in favor of "Having an Assistant Female Superintendent for the Female Department of every Hospital for the Insane under the control of the State." They also advise that the chief medical officers (male and female) be relieved of the care of the business management, so that their whole time may be devoted to their strictly professional duties.

Dr. Wm. Pepper makes A Contribution to the Clinical Study of Catarrhal Inflammation of the Bile-ducts, with Remarks on the Use of Nitrate of Silver in its Treatment. The paper is illustrated by several clinical cases. The dose of the nitrate administered was gr. 1·6–¼, combined generally with opium and belladonna, and the remedy was continued until the appearance of a blue line along the edge of the gums. Refief followed in all cases, sometimes within a few days.

Dr. Laurence Turnbull relates Experiments and Observations on the Physiological Properties of Hydrobromic Ether, which was first prepared for him in July, 1877, and with which he has been the first experimenter. If his observations should be confirmed by further trials, and the remedy found free of the dangerous properties of chloroform, it will prove preferable as an anæsthetic to both chloroform and ether. It is more agreeable in smell than ether, more rapid in action, and recovery from its effect is much quicker than from that of the other two anæsthetics.

S. S. H.

Transactions of the Minnesota State Medical Society, 1878. pp. 186.

This volume contains no address from the President, owing to the prolonged indisposition of that officer.

The reports of committees on the various branches of medicine relate chiefly to clinical cases, and present nothing requiring notice here.

Dr. L. P. Dodge reports for a committee on the Use and Abuse of Alcohol. His preparation consisted chiefly in sending a series of questions addressed to all the members of the Society, a few of whom made answer. Their various opinions on the points presented illustrate that doctors will disagree, like other people.

Dr. Franklin Staples furnishes a paper on Treatment of Fracture of the Shaft of the Femur, valuable in respect to the historical and descriptive particulars which it contains.

Dr. J. B. McGaughey, in a short article on The Importance of the Adoption of Measures for the Prevention of Venereal Diseases, recommends the legalized supervision of prostitutes and brothels, and the inspection of both the inmates and their visitors. Such a measure, if effectually carried out, would contribute less to the popularity of such establishments than to their sanitation. The plan would be admirable and no doubt successful, if only practicable; but our civilization must undergo some further stages of evolution before the votaries of pleasure can appreciate its advantages.

S. S. H.

Transactions of the Medical Association of the State of Alabama.

The Report of the State Board of Health, Thirty-first Session, 1878, pp. 316.

The address of the President, Dr. Peter Bryce, is devoted chiefly to the objects of the Association. Inasmuch as it has been constituted by law the State Board of Health, the subject of Public Hygiene occupies an important part, and particular stress is placed on the value of vital statistics.

The annual oration was pronounced by Benj. Hogan Riggs, M. D., on the subject of The New Era in Medicine. An important feature of this new era in Alabama Medicine is mentioned as a recent act to regulate the Practice of Medicine. In accordance with this, the holders of medical diplomas, like all other aspirants for practice, must submit to examination before a county board; and "no person shall engage in the

study of medicine until he satisfies his county board that he possesses sufficient culture and mental training to fit him for this great study."

Dr. Jerome Cochran contributes an elaborate paper on Hermaproditism, which is well worth careful reading. He also furnishes another able paper on the subject What is Puerperal Fever? The following is the most important portion of his summary:

"5. Leaving out of view the specific contagious fevers, such as small-pox and typhus, the term puerperal fever, as ordinarily used, includes three distinct maladies, namely:

"(a.) Simple puerperal inflammation—that is to say, puerperal metritis, and puerperal peritonitis, both of the usual

non specific type.

"(b.) Puerperal septicemia (under which name I also include puerperal pyemia), caused by the action of a septic poison; which septic poison may be generated in the abraded and wounded surfaces and tissues of the organs concerned in parturition, or may be introduced from external sources—a septicemia, therefore, which is infectious, contagious, communicable, and which may become epidemic.

"(c.) Puerperal erysipelas, which is of the same nature as surgical erysipelas, which is, therefore, infections, communicable, contagious, and, by possibility, epidemic—which can certainly be propagated by a heterogenetic poison, and which probably may be generated de novo in the person of the puer-

peral patient."

The volume contains several other meritorious papers, which we have not space to notice, and is on the whole highly creditable to our medical brethren of Alabama.

S. S. H.

Minutes of the State Medical Society of Arkansas, at its third annual session, 1878. pp. 44.

The address of the President, Dr. A. N. Carrigan, treats of medical organization, malaria and medical legislation. The pamphlet is characterized by the absence of papers on special medical subjects.

S. S. H.

Transactions of the Colorado Medical Society, Seventh Annual Convention, 1877; Eighth Annual Convention, 1878. pp. 108.

The papers of special interest relate to the climatology of Colorado. Dr. Jacob Reed maintains that the elevated at-

mosphere is favorable to subjects of hæmoptysis, particularly before softening has taken place.

Dr. S. Edwin Solly, in a paper on the Influences of Climate upon the Nervous System, holds: "That cases of nervous exhaustion, or anæmia, are benefitted in Colorado; that organic disease, when chronic, is not necessarily made worse, but when acute, decidedly aggravated; that disturbances of nervous equilibrium, when they occur, are more alarming, but not necessarily more frequent."

Dr. H. A. Lemen avers that no well authenticated case of sun-stroke has yet come to light in Colorado, although the temperature rises as high as in other localities where that disease prevails. He attributes its non-occurrence to the extreme dryness of the air, which favors rapid evaporation and thus cools the body. This is quite reasonable.

S. S. H.

## BOOKS AND PAMPHLETS RECEIVED.

Aphasia or Aphasic Insanity, Which? A Medico-Legal Inquiry. By Dr. C. H. Hughes, St. Louis, Mo. Reprint from the American Journal of Insanity, January, 1879.

The Herald of Health. A Manual of Practical Hygiene, or Guide to Health. By E. W. Gray, Editor.

The First Annual Report of the Presbyterian Eye and Ear Charity Hospital, Baltimore, Md., for the year ending December 2, 1878.

Cases Illustrating Two Rare Diseases of the Eyelids—Syphilitic Gummata of the Conjunctiva. By Charles Stedman Bull, M.D., New York. Reprint from the Transactions of the American Ophthalmological Society, 1878.

New York Academy of Medicine, 1879. Addresses by Drs. Samuel L. Purples and Fordyce Barker.

Evolution and Human Anatomy. By Stanford E. Chaillé, A.M., M.D., Professor of Physiology and Pathological Anatomy, Medical Department of Louisiana. Reprint from the New York Medical Record, February, 1879.

Address of W. O'Donneli, M.D., President of the Medical Asso-

ciation of Georgia, delivered at the Twenty Ninth Annual Meeting. Reprint from Transactions of Medical Association of Georgia, 1878.

Lessons from a Study of the Cesarean Operation in the City and State of New York, and their Bearing Upon the True Position of Gastro-Elytrotomy. By Robert P. Harris, A.M., M.D., Philadelphia. Reprint from the American Journal of Obstetrics and Diseases of Women and Children, Vol. xii., No. 1, 1879. Wm. Wood & Co.

A Case of Acute Puerperal Inversion of the Uterus. A Clinical Description of a New Instrument Successfully Employed; with Remarks on the Mechanism of Restoration. By John Byrne, M.D., M.R.C.S.E., Surgeon-in-chief to St. Mary's Hospital for Diseases of Women; Fellow of the American Gynecological Society, of the New York Obstetrical Society, etc., etc. Reprint from the New York Medical Journal, October and November, 1878. D. Appleton & Company, 551 Broadway, New York.

Catalogue of the Bingham School, Orange County, N. C.

A Series of American Clinical Lectures, edited by E. C. Seguin, M.D. Two Lectures on Lister's Antiseptic Method of Treating Surgical Injuries. By James L. Little, M.D., Professor of Surgery in the Medical Department of the University of Vermont; Surgeon-in-chief to the Mary Fletcher Hospital, Burlington, Vermont; Surgeon to St. Luke's and St. Vincent's Hospitals, New York; Lecturer on Operative Surgery, etc.

The Value of Absent "Tendon-Reflex," as a Diagnostic Sign in Locomoter Ataxia, with an Analysis of Eight Cases. By Allan McLane Hamilton, M.D., Visiting Physician to the Hospital for Epileptics and Paralytics, New York City. Reprint from the Boston Medical and Surgical Journal, December, 1878.

The Testimony of Medical Experts. Annual Address of W. H. Philips, M.D., Kenton, Ohio.

Fourth Annual Report of the Officers and Superintendent of the Asylum at Walnut Hill, Hartford, Conn.

Fifty Years Ago. An Address to the Graduating Class of the Medical College of the Pacific for 1878, by Henry Gibbons, Sr., M.D., Professor of the Principles and Practice of Medicine and Clinical Medicine.

## METEOROLOGICAL REPORT FOR MARCH, 1879.

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5 6 7	70	46	24	30.34 30.29	7.1.	.00
0	70	48	22	30.29	77.	.00
8	72 75	48 49	24	30.21	75.	.00
9	76	52	26	30.14	79.	.00
10	75	57	24 18	30.18 30.24	78. 78.	.00
11	75	61	14	20.24	92.	.00
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13	70	60	10	29.95	89.	.74
14	72	57	15	30.06	63.	.00
15	74	53	21	30.11	71.	.00
16	75	56	19	29.95	75.	.00
17	66	48	18	29.93	77.	.00
18	59	48	11	30.13	48.	.00
19	63	47	16	30.24	45.	.00
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932

MORTALITY IN NEW ORLEANS FROM MARCH 23, 1879 TO APRIL 27, 1879, INCLUSIVE.

Week En	ding.	Yellow Fever.	Malarial Fever.	Consump-	Small- pox.	Pneu- monia.	Total Mortality.
March Apr·l " "	30 6 13 20. 27	0 0 0 0	3 0 1 6	18 22 16 12 20	0 0 0	5 5 4 6 8	93 67 89 98 106
Totals		0.	11	88	0	28	453

## NEW ORLEANS

# MEDICAL AND SURGICAL JOURNAL.

## JUNE, 1879.

### ORIGINAL COMMUNICATIONS.

A Record of the Caesarean Operations that have been performed in the State of Louisiana during the present century.

By ROBERT P. HARRIS, A.M., M.D., Philadelphia.

Member of the American Philosophical Society; Follow of the College of Physicians
Philadelphia; Member and Ex-President Philadelphia Obstetrical Society;
Corresponding Member Gynecological Society, Boston, etc.

As the State of Louisiana has the honor, so far as it is possible to ascertain, to have been the pioneer in gastrohysterotomy in the United States, so also is she to be credited with the largest number of operations, and the longest record of successes, of any of the States. In fact, after a laborious search covering some ten years, by which the number of cases recorded has been more than doubled, I have reason for believing that in no section has there been a larger proportion of the lives saved. Nine cases are all that were published in the medical journals of our country, as having been operated upon in the State; and of these but one was fatal to the mother, although four of the children perished. To more than double this record, was to search out what in most countries would have proved to be a list of almost universally fatal cases; but not so in this instance, for out of the ten additional operations, there were but five that failed to save the mother. Having endured this test, we publish the statistics of the State with a feeling that they much more than usually present the true

mortality of the operation; the chief objection to such records being that they do not fully exhibit the facts, and thus give too fair a coloring to the result. Of 108 cases thus far collected in the United States, but 62 had ever been published; and it is fair to say, that but for the search made for them the 46 additional would have soon been beyond the possibility of recall, as some stand chronologically at the head of the list. The same may be said of the special record here presented, as several of my informants are beyond their threescore years and ten, and the operations date back nearly two generations; one operator, and one who assisted at an operation, the first case in 1831 and second in 1832, being among the number.

Cases 12 and 13 gave me a great deal of trouble, as, strange to relate, they had each three claimants, and one of these had had them credited to himself through a French medical society twenty years ago. A second party also had case 12 recorded in his name, although a laborious investigation satisfies me that he was not even present at the operation. The third claimant has certainly established by abundant proof that he was entitled to be considered the operator in each instance; and this is the opinion of my medical friends, who have seen the letters and records of interviews in my possession. If either the first or second claimant ever performed the Cæsarean operation, it was not upon the woman in cases 12 and 13, as a package of letters before me gives these operations to Dr. Pilate, now 75 years old, and a resident for the last twelve of Dayton, Ohio.

At this distance (1400 miles) from New Orleans, it is no simple matter to hunt up the records of the past for the State, although in some respects it has been an advantage, as the particulars of no less than eight of the operations were obtained through parties residing at the North, and it is quite possible that cases have been overlooked in some of the parishes. Through the kindness of Dr. Bemiss, and by my own circular, the State was very thoroughly canvassed so far as we were concerned; but from the few replies received, I must either infer that there were no reports to make, or that the parties were indifferent on the subject. Charity would induce one to believe the former. An investigation into the prevalence of

rickets in the various parishes of Louisiana ought to be made, and I hope soon will be, when the association of rachitic deformity with the Cæsarean section may bring to light some lost cases. From the few local reports that I have met with, it is evident that this malady is quite prevalent in some localities, and almost unknown in others, the region of Donaldsonville appearing to be one of its most marked centres, seven of the operations reported having been performed in this locality.

Whether or not there were any operations in the period of the French occupation prior to 1803, I am not able to say, but it is quite possible that there may have been, as there were such in the West Indies under French surgeons as early as 1804. At present we have no record earlier than that of Dr. François Prévost, who was born at Pont-de-Cé, in the South of France, about the year 1764; graduated in medicine at Paris; settled in San Domingo; was driven out during the insurrection; escaped to Louisiana, and spent the balance of his days at Donaldsouville, where he died in 1842, at the age of 78. How early in his career in Louisiana, he performed the operation of gastro-hysterotomy, I know not, but do know that he was at least credited with the four cases I have given him. As he was a bold operator, and was 67 years old when he operated on the fourth case, it is quite probable that he may have had others prior to the first on our record, for he was engaged in an active practice for more than thirty years, in a district in which rickets was not uncommon as a cause of dystocia.

It is to be regretted, that in several instances my record of cases will be found rather imperfect; but it could not be otherwise at this late date, as it was found impossible, in regard to some of them, to collect more than a few leading facts. Had Dr. Naucrede, in his report of Mrs. Reybold's operation in Philadelphia in 1835, taken up the matter of search upon the statement made to him by a resident of Donaldsonville, he might have obtained many important historical facts from Dr. Prévost, who was then living, instead of publishing a plantation rumor as a probable occurrence. See Am. Jour. Med. Sci., 1835, vol. xvi., p. 347.

Case 1. Year unknown. Dr. Francis Prévost, operator, Donaldsonville, Ascension Parish, La. Woman a slave. Child

lived; woman recovered. Cause of difficulty believed to be the prevailing one of the locality, i. e., rachitic pelvic deformity.

Case 2. Same operator and subject, with the same result to mother and child.

Case 3. About 1825, Same operator and locality. Woman a slave, believed to have been the property of a German black-smith by the name of Krolin. Child, a male, lived, and was still living a few years ago in Washington, D. C. The woman is believed to have died from the operation. Dr. Prévost pointed out the child, when a boy of 6 or 7 years old, to Dr. Thomas Cottman, in 1832, as one of the results of his Cæsarean deliveries. The boy was then living with a woman who kept a shop in Donaldsonville, and as Dr. Cottman never heard of the mother, it is probable she died.

2. The law then empowers the Governor and Council to appoint two medical examiners for Suffolk county, and for each other county such number as may be designated by County Commissioners. These men to be "able and discreet men, learned in the science of medicine."

3. In the county of Suffolk, each medical examiner receives an annual salary of \$3000; in other counties \$4 for a view without an autopsy; for view and autopsy, \$30; for travel, 5 cents per mile to and from the place of view.

Dr. Thomas Cottman, now of New York, became the successor in practice of Dr. Prévost, in 1832, and fell heir to his books and instruments at his death ten years later. In letters received from him in March and April, 1878, and at a subsequent personal interview, I obtained the accounts of the above cases. Dr. Cottman stated that there could be no question as to the performance of the two operations 1 and 2, on the same woman, with safety to herself and children. Dr. Prévost being an old man when Dr. C. first met him, and of a peculiarly reticent nature, will account for the latter not having been fully informed upon the Cæsarean cases of the former.

Case 4. 1831. Dr. Francis Prévost, operator, Donaldsonville, La. Woman black, slave of Madame Cadet Maurous, aged about 28 or 29, named Caroline Bellau or Bellak, in second labor; the first child, a male, having been delivered, as nearly as can be ascertained, by craniotomy and evisceration. Dr. Prévost made his incision in the left side of the abdomen, and removed a female child, that lived, grew up, married, and was residing a few years ago in New Orleans. This child was a mulatto, and Dr Prévost gave it the name of Césarine, and stipulated with Madame Maurous that if it lived it should have its freedom, which was acceded to and subsequently given.

Caroline made a good recovery, as the operation was elective, and performed in good season, and lived until Césarine was nearly grown up. Dr. Cottman first saw them both in 1832, and examined the cicatrix of the former. The mother is described by some of her cotemporaries as "a rather stout, black woman, who carried herself quite erect."

A curious plantation rumor was started about this woman, at the time of the operation or soon afterward, to the effect that she had been operated upon in the same way some six or seven times; and this was found to be still credited a year ago among some of the old quondam slaves of the time, then living in the vicinity. It required a long search, and numerous letters and interviews, before the facts could be separated from the fiction in this case, for which I am much indebted to Dr. John E. Duffee, of Donaldsonville, Dr. Cottman, and others. See American Journal, July 1878, pp. 68, 69.

Case 5. 1831. Dr. Charles A. Luzenberg, operator, assisted by Dr. J. P. Davidson, New Orleans, La. Woman a slave of Mrs. Samuel Kerr, mulatto, age about 22, affected with a deformed pelvis; was in labor 72 hours before the operation was performed, and died in 48 hours, of septicæmia. The child was dead. Communicated to me by Dr. Davidson, through Prof. Ernest S. Lewis, of New Orleans, Feb. 14th, 1879.

Case 6. 1832. Dr. Thomas Cottman. operator, Drs. Thompson and Tusson, accoucheurs, Stansbury Point, Parish of Ascension, La. Woman named Patsey, aged about 20, slave of Mrs. Stansbury, affected with deformity of the pelvis; had been in labor fifty hours, during which the crotchet had been used, but to no purpose other than destroying the fœtus. The woman was much debilitated by long suffering before the operation, but still made a good recovery, and was alive and well in 1850. The case is said to have been reported by Dr. Tus-

son in a journal of Montpelier, France. Communicated by the operator, March 26th, 1878.

Case 7. 1838. Operation performed by an old drunken plantation midwife on a slave at Judge Waggaman's plantation, near New Orleans. The subject was a young black girl, and recovered, and the child lived. The mother was afterward affected with slight incontinence of urine. Case reported by Dr. Bennett Dowler, of New Orleans. (New Orleans Medical and Surgical Journal, vol. i., p. 13.)

Case 8. 1846. Dr. J. A. Scudday, operator, Thibodeaux parish, La. Maria, black, aged 30 to 32, sixth labor, affected with pelvic exostosis growing from the sacrum—space between tumor and symphysis, 1½ inches. Aborted with first four fœtuses; and fifth died at maturity and was delivered by the forceps. Woman in labor about twelve hours before the operation, and was in a favorable condition for it; child alive, but died in a few minutes after removal. Mother recovered after a severe attack of inflammation, ending in suppuration. See this Journal, vol. 6., 1850-51, p. 355.

Case 9. 1849, May 17th. Same operator and subject. In labor a few hours; woman and child lived; latter reported alive, four months afterwards. Opus citatus, p. 355.

Case 10. 1849, July. Dr. Thomas Cottman, operator; Dr. Bernard, acconcheur, St James parish, La. Woman black, affected with pelvic exostosis; child destroyed, in an attempt to deliver by craniotomy. Woman in labor more than 24 hours, and exhausted thereby, but made a rapid recovery, being up on the twelfth day, and about in three weeks. Fætus, minus brain and parietal bones weighed 12 pounds. Woman reported living in 1862. Opus citatus, 1851, vol. 7, p. 337.

Case 11. 1851, May 10th. Dr. Daniel B. Gorham, operator, Bayou Sara, La. Lilly, black, aged about 25—second labor, first being long and tedious—cervix entirely occluded, no os being distinguishable with the whole hand in the vagina. Woman in labor 24 hours under a midwife, and not operated upon until 48 hours in labor, by which time she was feeble, sweating and exhausted. Fœtus large and well formed, lived, mother recovered; nursed in five days, wound healed in two weeks. Opus citatus, vol. 8, 1852, p. 194.

Case 12. 1852. Dr. E. Pilate, operator, assisted by Dr. Dabrin; Dr. Frederick Archer being present. Woman, a dark mulatto, about 5 feet high, aged about 28 years, belonging to Mr. A. Roquet, on the Teche road; affected with deformity of the pelvis—primipara—under care of a plantation midwife; in labor 26 hours, and somewhat exhausted. The fœtus was a large male and found dead. Mother recovered and was up on the twenty third day. As there were no anæsthetics on hand, the woman was allowed the privilege of smoking her pipe during the operation. Communicated by the operator from Dayton, Ohio, August 20th, 1878.

Case 13. About 1854. Same operator and assistant—Dr. Acher not present; pregnancy known for several months; operation by election; child, a female, not so well developed; extracted alive, but soon died; woman recovered. She is reported to have ruptured her uterus in a third labor, and to have died in consequence of it, but not upon very reliable authority, although it may be correct. Communicated by the operator, August 20th, 1878.

Case 14. 1857. Dr. A. F. C. Langenbecker, operator, New Orleans, La. Woman black; affected with deformed pelvis; died; child saved; report very imperfect. New Orleans Medical and Hospital Gazette, 1857, p. 555.

Case 15. 1860, August 25th. Dr. J. C. Egan, operator, Bienville parish, La. Betsey, aged 33 years, black, married, mother of one child, nine years old. This is one of two cases of prolonged gestation in the United States, in which the children were extracted by gastro-hysterotomy; in this one, the fœtus was in utero for three years and eight months, the record being as follows: On May 4th, 1857, while at work the patient felt a sudden and violent pain in the left side, fainted, and was so long insensible, that she was thought dead, finally revived, was pronounced four months pregnant. Labor came on in November, os dilated, head presented pains active and violent, but no descent below the sup. strait, labor at intervals for a month; health in a measure regained. In the fall of 1858, a fistula appeared 1½ inches below the umbilicus.

Woman, at time of operation, greatly emaciated and affected with hectic fever. Uterus found adherent, peritoneal cavity

not opened, left foot and hand of fœtus missing, found them in a pouch-on left side of uterus enclosed by muscular bands which were cut to liberate them. Uterus examined bi-manually, so as to be sure of a proper drainage by the os. Patient made a rapid recovery. See this Journal for July, 1877, p. 35. Particulars communicated by the author, June 11th, 1878.

Case 16. 1866, January. Dr. Beauville Claverie, operator, Donaldsonville, La. Felicie, primipara, very lame, black, aged about 30, in extremis from a protracted labor, pelvis deformed, died of shock in a few hours, child dead. Communicated through Dr. John E. Duffel, April 15th, 1878.

Case 17. 1866, July. Dr. Mooty, operator, Athens, Claiborne parish, La. Woman black, aged about 20 years, form of distocia quite unique, lower part of colon disturbed by a cake of clay, which had become prolapsed into the pelvis and shut off the uterine outlet, the clay having been taken as a remedy for heart burn. Woman under care of a midwife and in labor sixty hours, child removed dead, its funis having been prolapsed, was torn off by the midwife. On the sixth day after the operation, patient was seized with an obstinate diarrhœa which entirely removed the clay, after which relief she recovered. See this Journal for July, 1877.

Case 18, 1867, December 21st. Drs. H. C. D'Aquin and D. Warren Brickell, operators, New Orleans, La. Madame Des. pritz, 23, French Creole, affected with occlusion of vagina and os uteri, in labor ten days, five in the hands of a midwife; fœtus destroyed by an attempt to deliver under craniotomy. Patient at time of operation had an anxious countenance, respiration of 26, and pulse of 143. All uterine action having ceased, the organ did not contract after the removal of the fœtus, which was putrid, and to close the wound, its edges were brought together with six silver sutures. Woman recovered, and was reported alive and well in November, 1877, never having experienced any inconvenience from the wire sutures She has never since been pregnant. This is the first Cæsarean operation in the United States in which the uterus was closed with silver wire, and the third in which uterine stitches were employed. (See a very full report in this Journal for 1868, vol. xxi., p. 454.)

Case 19. 1873. Drs. Trudeau and Formento, operators, New Orleans, La. Woman colored, aged about 28 or 36, affected with exostosis of the sacrum, and had been in convulsions 24 hours; antecedents unknown to operators. Woman died of exhaustion in 36 hours; child died when extracted no uterine sutures employed. (Communicated by Dr. Felix Formento, through Prof. Ernest S. Lewis, March, 1878.)

Of the nineteen cases, nine had deformed pelves, and four pelvic exostosis; fourteen women recovered, and five died; ten children were extracted alive, and two afterward died; all the subjects were black but one. In six instances, the operation was, as far as can be ascertained, performed early, resulting in the recovery of all the women, and saving four children, five having been alive on extraction, thus showing the advantages of promptness. In only two of the nineteen cases is the death of the child attributed to craniotomy. In 10 cases where the duration of labor was prolonged, three women died, and all the children perished; 8 of the latter died during the protracted labor. The whole of the operations saved 73 13-19 per cent. of the women, and 42 2-19 per cent. of the children. In three instances the same women were operated upon twice, and all recovered; five of the children were extracted alive, and three lived.

As my record now stands, Ohio takes precedence of all the States in proportion of women saved, seventy-five per cent. having recovered, or six white women in eight operations; five of the children were extracted alive, and two died, in two days and one week respectively. I am under the impression, as no unpublished cases have been discovered in Ohio, that a more perfect search than I have been able to secure would, as in other States, make a less favorable showing. Out of 25 States in which the operation has been performed, I could name 16, in which unpublished cases were discovered, ranging from one each, to as high as ten; and in no State but Ohio, reporting over ten cases, have I failed to find others. To obtain those of some men, it is necessary to first find out from other parties, that they have operated, then write to them directly, stating that you desire their report, sending them a form to be filled up, when you will get the record, and sometimes promptly,

although you may have written a general letter of inquiry to the same physician before without receiving any answer. Failures, although by no means discreditable to the operators, are often witheld from publication simply because the cases have not the creditable mark of success.

It is difficult to account for the remarkable success in the Cæsarean cases of Louisiana, except in those operated upon early; for exclude these, we still have a recovery of 61 7-13 per cent. of the women after labors lasting from 24 hours to 10 days. In Mississippi, but 2 were saved out of 6, and Alabama, 3 out of 10, two of the three being white. In New Orleans, but one woman and one child were saved, as the result of four late operations. All of the other late operations (9), were upon plantation slaves, and although but 2 children were saved, all but two of the women recovered, or 77 per cent. In no other section of the United States have late operations met with anything like this degree of success, which exceeds even that of the 26 early operations of our country, except in the saving of children.

713 Locust Street, Philadelphia, April 15th, 1879.

## Yellow Fever Epidemic of 1878 in New Orleans.

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#### LECTURE III.

MICROSCOPICAL CHARACTERS OF THE BLOOD IN YELLOW FEVER.

PULSE, RESPIRATION AND TEMPERATURE IN YELLOW FEVER.

#### GENTLEMEN:

With reference to the various infectious fevers, pathologists are accustomed to state that they have as their common and

essential character an extraordinary development of contagious chemical activity, or, as certain writers call it, fermentation or zymosis, in the affected body. We may well ask whether there is any exact knowledge behind these general terms, and whether their authors have the remotest conception wherein the chemical activity of small-pox differs from that of scarlatina or yellow fever? Under the head of the so-called dyscracies, systematic writers have tabulated a large number of diseases, as gout, scrofula and rheumatism, in which the chemical workings of the body are at fault, but has any description of the peculiar physical and chemical changes been given which would be recognized as intelligible by a chemist? What do we know of the chemistry of cancer, leprosy and rickets? This defect of knowledge not only leads to the use of undefined terms, but also lies at the very roots of the imperfection in the practice of medicine. It is to be hoped that as medical science advances in the future, it will be possible in respect to any morbid process, so far as it concerns the chemistry-of the body, to define it in precise chemical language; to state accurately the precise bodily materials affected in any specific disease, the various stages of transformation, and the physical and chemical results.

Just as the chemist expresses in exact chemical terms the difference between the processes and products of vinous and butyric fermentation, in like manner should the pathologist define the different zymotic diseases. Such knowledge will lead not only to rational systems of treatment, but may unfold the true modes of prevention. It has been well said that for future progress, the possibilities of medicine are but two; on the one hand we have the choice, such as it is, that from time to time new specific antidotes may accidentally be discovered; on the other hand, there is the power of deliberate scientific discovery and application. During the past twenty three years, I have endeavored to investigate in civil and military practice the chemical, physical, microscopical and pathological changes of the solids and fluids in various diseases, and more especially in yellow fever, typhoid fever, the various forms of malarial, or paroxysmal fevers, and in cerebro-spiral meningetis, hospital gangrene, pyæmia and traumatic tetanus.

such investigations I have conceived it to be clearly the duty of the investigator to record carefully and accurately the symptoms accompanying the microscopical and chemical changes of the solids and fluids, and a similar course will be pursued in the presentation upon this occasion of the results of the microscopical characters of the blood in yellow fever.

- CASE. YELLOW FEVER—HIGH TEMPERATURE; JAUNDICE; URINARY SUPPRESSION; BLACK VOMIT; BLOOD ABSTRACTED DURING PROGRESS OF DISEASE CONTAINED CRENATED COLORED CORPUSCLES AND BACTERIA; POISONOUS QUALITIES OF BLOOD DEMONSTRATED BY EXPERIMENTS.
- J. D. Munson, age 29, native of Austria, has resided in New Orleans 2 years, black hair, black eyes, florid complexion, stout, compact form, Jewish faith and features, cigar manufacturer and vendor, residence 101 St. Louis street, but was taken ill September 6th, in his tobacco factory, No. 17 Tolouse street.

Attacked September 6th, 1878, about 7 o'clock, A. M., with chill followed with intense pain in the head and back and high fever. I saw this patient at 2 o'clock, P. M.

September 6th, 2 P. M. Pulse 140, temperature of axilla 106, F., face greatly flushed and might well be described as brilliant blazing red, eyes congested, tongue red at tip and edges, with thick, cream-like fur, intense pain in head, back and lower extremities: anxious and restless. Patient says that he felt greatly alarmed about the yellow fever, and had been unwell for several days before he was attacked this morning. The patient lies upon a small cot in his tobacco factory upon the second floor of house No. 17 Toulouse street, and is surrounded by piles of leaf tobacco and cigars.

R. Hydrargyri sub-chloridi (mercurous chloride); quininæ, sulph. aa ③i, mix, administer at once, and follow with one fluid ounce of castor oil in three hours. R. Tinct. veratri viridis fɔ̃ij, four drops every two hours. Bay rum and sedative water to head.

September 7th, 1878, 10 o'clock, A. M. Pulse 90, temperature of axilla 104° F. Patient has had four copious evacuations from bowers and has urinated twice.

R. Sulpho carbolate of sodium 3ij; divide into 12 powders, one powder in orange leaf tea every 4 hours. R. Tinet. veratri viridis, gtts. iiv, every 4 hours, in orange leaf tea. Apply mustard foot bath. Iced Apollinaris water as a drink. Cold cloths to head.

September 8th, 10 o'clock, A. M. Pulse 80, temperature of axilla 105°. The pulse has fallen ten beats, whilst the tempera-

ture has risen one degree Fahrenheit during the past 24 hours. This change has been attended with a perceptible yellow tinge of the surface, and without doubt the diminution in the frequency of the heart's action must be referred to the acute fatty degeneration of this organ, as well as to the sedative action of the constituents of the bile on the cardiac and spinal ganglia. During the nights of the 7th and 8th the patient was restless, and his friends called in the nearest physician, who administered a large dose of Batley's sedative (a preparation of opium, very popular with certain physicians of New Orleans in the treatment of yellow fever). The patient had taken five powders of the sulpho carbolate of sodium before the adminsitration of the preparation of opium. Since the administration of the preparation of opium he has become stupid, and his kidneys have ceased to act. I attribute this "unfortunate turn in his case" to the action of the preparation of opium the socalled "Batley's Sedative," I endeavored to re-establish the secretion of the urine by sinapisms over the loins, and by the free use of Apollinaris water.

4½ o'clock, P. M. Pulse 70, temperature of axilla 104.8°. Yellow hue of skin increasing in intensity. Great capillary congestion, tongue red at tips and edges and heavily coated with fur in centre, gums red and spongy, suppression of urine, Nausea, vomits thick mucus of a white appearance. Capillaries greatly congested, the skin, however, and conjuntiva, present a yellow tinge.

R. Quiniæ sulph. 3ij., linamenti saponis f\( \frac{7}{3}\)iij., olei olivæ f\( \frac{7}{3}\)iij. Mix: apply as a linament to trunk and extremities.

Applied cut cups over the epigastrium and loins. Blood flowed slowly, and rapidly assumed a brilliant scarlet hue, like the blood of those who have been poisoned with carbonic oxide gas or cyanide of potassium. The blood was tested for hydrocyanic acid after its removal to the laboratory, but no trace of this poison could be detected. The patient expressed great relief from the application of the cut cups.

Under the microscope the colored blood corpuscles presented a crenated appearance, and minute oval bodies with a central nucleus, similar in size and appearance to those observed in the yellow fever atmosphere, and previously described in the second lecture, were discerned by the use of powers ranging from 420 to 1800 diameters. I also observed rod-shaped bacteria and delicate thread-like filaments resembling the mycelia of minute fungi. The minute particles of matter possessing an active vibratory motion observed in this and other specimens of blood, may have been examples of the Brunonian movement. The vibratory motion of minute particles may be associated with inorganic matter, as well as organic; but from the number of these particles observed in the blood of yellow fever patients during the epidemic of 1878, I was inclined to refer their exist-

ence, in part at least, to the pathological processes of the disease.

The blood was received carefully into a glass-stoppered bottle, and examined microscopically at various intervals, and there was a rapid and progressive growth of the bacteria, and rotatoria, and minute vibratory particles. On the third day after its abstraction and preservation in the glass-stoppered bottle, the blood literally swarmed with the rod like bacteria and rotatoria. When the blood thus undergoing change was, 22 hours after its abstraction, injected subcutaneously into the ear and back of a large, powerful buck rabbit, death ensued in 12 hours. Putrefaction was rapid, and the coagulated blood which distended the cavities of the heart of the animal was found, upon microscopical examination, to contain similar rodshaped bacteria, and rotatoria, to those observed in the blood of the yellow fever subjects. The few drops of putrid yellow fever blood injected subcutaneously, appear to have conveyed to the living and healthy animal a deadly poison, and one of the most marked effects of such putrid blood was the rapid generation in the blood of bacteria.

At the same time I injected subcutaneously into two healthy rabbits, fresh yellow fever blood from another patient. This blood was injected within two hours after its abstraction from the patient, who was suffering with a violent fever which subsequently terminated in black vomit and death. One of the animals survived the operation, whilst the other died on the fourth day after the operation.

September 9th, 10 o'clock, A. M. Pulse 52, slow and intermitting. Temperature under the tongue 103° F. The blazing red scarlet face has changed to a yellow, sallow, jaundiced hue; the lips and tongue, however, are of a brilliant scarlet hue; nausea and vomiting still continue. B. Calcis carb. precip. 3ij., liq. flori aurantii f3vj. Mix. Sig. Tablespoonful every 4 hours. Has passed no urine. Condition hopeless. 5 o'clock, P. M., pulse 60, temperature 103·2°. Patient says that he is better, that he derives great benefit and comfort from rubbing with the quinine linament. A small quantity of urine was passed this day, of a yellow color, turbid aspect, and loaded with granular casts and albumen.

September 19th, 10 o'clock A. M. Pulse 64, temperature 102°. Restless and anxious; surface of a golden color; great capillary congestion; nausea and vomiting; vomits when liquids are introduced into the stomach; vomited matters streaked with dark specks and flakes. Suppression of urine. Careful examination revealed no urine in the bladder. Sinapisms to the pit of the stomach and loins, as well as cold ice-water injections by the rectum, excited no perceptible effects upon either the vomiting or the urinary suppression. Patient passed a restless night, and at the present moment is very restless,

and his eyes move nervously and restlessly in their sockets. 5 o'clock P. M., pulse 70, temperature 102.5°.

September 11th, 7 o'clock, A. M. At 5, A. M., this morning, the patient threw up black vomit. Pulse 84, temperature 99.5°. With the ejection of the black vomit there has been a marked fall in the temperature, which stands very nearly at the normal point. Intense jaundice. Patient very restless, his eves absolutely dance in their orbits, so incessant is the contraction and expansion of the optic muscles. Delirium, twitching of tendons. Has passed no urine, the bladder contains none, Has passed two copious bloody dark stools. This occurrence, as well as the black vomit, would indicate that profuse hæmor. rhage had taken place into the alimentary canal, and to this cause most probably must be referred the abrupt descent of the temperature.

The black vomit was carried immediately from his sick chamber (this specimen was vomited in my presence,) to my laboratory, and injected subcutaneously into two strong rabbits. Local irritation with the formation of pus in the neighborhood of the injections, attended with moderate fever, ensued in both animals, but they survived the operation. On the other hand, black vomit kept for some time (from 24 to 48 hours) which emitted a foul smell and swarmed with bacteria, as well as the putrid black vomit taken from the stomachs of patients after death from yellow fever, destroyed the rabbits (when injected subcutaneously) in from 12 to 18 hours.

Such experiments would indicate that fresh black vomit is comparatively inocuous, whilst in the putrid state it rapidly destroys life.

5 o'clock, P. M. Delirium, intense jaundice, hiccough, in cessant twitching of the muscles, eyes dance incessantly in their orbits. Died at 8 o'clock, P. M.

Commentary—It will be admitted that this was an example of the gravest form of vellow fever.

The blood after its abstraction, contained crenated blood corpuscles, bacteria, and bodies resembling spores, and the mycelia of fungi. The fibrinous element was almost wholly wanting in the blood.

The blood rapidly underwent putrefaction after its abstraction, although preserved in an air-tight glass bottle, and concurrently with this putrefaction there appeared innumerable bacteria and micrococci. The putrid blood proved rapidly fatal to living animals when injected subcutaneously, and the blood of animals thus destroyed contained numerous bacteria, similar to those observed in the yellow fever blood.

The fresh black vomit immediately after its ejection from the stomach, acted as a local irritant when injected subcutaneously, but putrid black vomit acted as a violent poison and in a manner similar to that of the putrid blood when introduced into the blood.

CASE. YELLOW FEVER; HIGH TEMPERATURE; WILD DELIRIUM:
URINARY SUPPRESSION; BLOOD ABSTRACTED AT HEIGHT
OF DISEASE CONTAINED CRENATED CORPUSCLES AND BACTERIA; DEATH; EXPERIMENTS.

J. K., male, age 38 years, native of Germany, has resided in New Orleans 20 years, residence 406 Second street. Vacant lot in front of residence, covered with water, in which numerous frogs disport themselves and render the nights hideous by their incessant clamor. Occupation, clerk in stationary store on Canal street.

Attacked with pain in the head and high fever, at 2 o'clock, P. M., August 27, 1878. I was summoned at once and saw the patient at 4½ o'clock, P. M., two and a half hours after the onset of the fever. Pulse 160 per minute, temperature of axilla 105.2°. B. Hydrargyri subchloridi, quiniæ sulphatis aa grains x. mix: administer at once. B. Olei ricini f3j: in three hours after the administration of the calomel and quinine powder.

August 28th, 9 o'clock, A. M., pulse 104, temperature 102.8°. There has been a marked diminution of the beats of the pulse, to the extent of 56 beats since 4½ o'clock, P. M., yesterday, and the temperature has declined 2.4° F.

The bowels have been freely moved by the action of the purgative. The patient, however, is very restless and distressed, and anxious about himself. He is said to have dreaded the fever and to have taken various nostrums for its prevention. I conceived that good might be accomplished in this case, by the early and free use of quinine, and accordingly or lered the following: B. Quiniæ sulph. grains xx: divide into two powders, administer one powder immediately, and the second in two hours. Hot mustard foot bath, cold cloths to head. Orange leaf tea as a drink in moderate quantities.

8 o'clock, P. M. Pulse 102, temperature 106.2°. The patient has taken the 20 grains of quinine prescribed this morning and they have been retained by the stomach; we fail however to note any beneficial effects from the action of the medicine. The quinine has certainly produced no reduction of temperature, on the contrary the heat of the trunk has risen from 102.8° to 106.2°, that is 4° F., under the action of 20 grains of this alkaloid.

It will also be observed that this rise of temperature has been attended with a diminution in the number of beats of the pulse.

August 29th, 9 o'clock, A. M. Pulse 98, temperature 105°. The patient was delirious and very restless during the night. This restlessness was not relieved by cold affusions, neither was the heat reduced by the injection of considerable quantities of ice cold water into the rectum. I had ordered during the night, to secure if possible quiet sleep, the following: B. potassii bromidi 3ij, tinct, gelsemium sempervirens (yellow jassamine) f 3j, liquor ammoniæ acetatis f 3vj, mix tablespoonful ever four hours; but no beneficial effects were observed from this mixture. The entire body was also rubbed with fresh olive oil. Stomach irritable, pressure upon epigastrium appears to occasion much pain, complains of severe pain in head and back and lower extremeties. Has a wild, restless, anxious expression of countenance. When spoken to answered co herently, but I am informed that as soon as I left his bedside last night he raved and could not be quieted.

I determined to endeavor to relieve the cerebral symptoms, if possible by the abstraction of blood locally, and accordingly applied cut cups to back of head and epigastrium. I endeavored also to reduce the temperature by the following: B. Salicylate of sodium 3ij, divide into three (3) powders, dissolve in a half pint of cold water and administer by enema every 4 hours.

Upon standing the blood abstracted presented a brilliant searlet hue, the clots were small and soft and rapidly dissolved. The blood thus became entirely fluid a short time after its abstraction by the dissolution of the fibrin. The serum at first presented a bright golden color, but rapidly changed to a scarlet hue from the liberation of the coloring matter of the colored corpuscles. Many of the colored blood corpuscles presented under low powers (400 to 600 diameters) a crenated and granular appearance.

Under higher powers, 1-18th of an inch, the peculiar crenated appearance of the colored blood corpuscles was found to be due to irregular elevations or exudations of the surface of the corpuscles. Many of the colored and colorless corpuscles presented a distinctly granular appearance, wholly unlike the conditions of these constituents in healthy blood. The blood also contained minute vibrating particles, varying from one ten-thousandth to one twenty-thousanth of an inch in diameter. Injected the fresh blood from this patient subcutaneously into rabbits. No perceptible ill effects were observed from such injection of fresh blood.

August 29th, 8 o'clock, P. M. Pulse 98, temperature 104.2°. Ordered the continuance of the salicylate of sodium, and bromide of potassium mixture, with cold sponging of the surface.

Patient very restless; mutters to himself, but when aroused appears to be rational. The tongue as upon the previous days has presented an intensely red color at the tip and edges, with heavy coat of fur in the centre. Under the action of 120 grains of the salicylate of sodium, administered by enema, the pulse has remained unaltered, whilst the temperature has fallen 0.8° F. This fall in the temperature is so inconsiderable that it cannot with propriety be referred to the action of this agent.

August 30th, 8½ o'clock, A. M. Pulse 90, temperature 104,2°. Countenance expressive of terror and great auxiety. Had a great dread of yellow fever, and his friends represented him as having been in a state of absolute alarm and fright for one month before his attack. Delirious. Three drachms (180 grains) of the salicylate of sodium have been administered by the rectum in ice cold water with the design of obtaining its sedative, antiseptic, antizymotic and antiperiodic effects, but no perceptible effects have been produced, unless we hold the ground that it has at least prevented that great rise of temperature which sometimes occurs in yellow fever, and which appeared to be imminent in this stout, plethoric, florid German.

8 o'clock, P. M. Pulse 102, temperature 104.5°. Skin burning hot, patient restless and delirious, bowels have been moved several times. Ordered 40 grains of the salicylate of sodium in six fluid ounces of beef tea every three hours. Continue cold applications to head, also the fragments of ice in the mouth,

August 31st, 8 o'clock, A. M. Pulse 106, temperature 105.6°, wild delirium. The patient passed a fearful night, and it was necessary to restrain him in bed. Up to the present time there appears to have been no marked diminution of the urinary secretion, and the complexion has been comparatively free from any appearance of jaundice; the full force of the disease appears to have fallen on the cerebro-spinal system. The salicylate of sodium, although freely and faithfully administered, has failed to control the fever, the temperature having steadily risen during the last 24 hours, from 104.2° to 105.6°, and the pulse from 98 to 106.

The urine presented a light yellow color, and contained a small quantity of albumen, with a few granular casts of the tubuli uriniferi and epithelial cells of the urinary tubes, oil globules and bacteria, and granular matter. Immediately after arriving at my laboratory, I injected two fluid drachms of this fresh urine (urine passed in my presence) subcutaneously into the backs and thighs of healthy buck rabbits. After the injection of the urine, the lower extremities were temporarily paralyzed for a few moments, but the animals were not to any perceptible degree affected by the absorption of the urine, and survived the operation.

1879]

CASE. YELLOW FEVER; URINARY SUPPRESSION; BLACK VOMIT; MICROSCOPICAL CHARACTERS OF BLOOD AND BLACK VOMIT; EXPERIMENTS ON ANIMALS.

William D., male. age 27, native of Ireland, resident of New Orleans 5 months, red hair, blue eyes, florid complexion, height 6 feet, weight about 185 lbs., sanguine nervous temperament. The full health, muscular development, red florid complexion, indicated that this was a fit subject for the manifestation of the most fearful ravages of yellow fever.

Residence 192 Felicity street. Attended the sister of this man in the same house, through a severe attacd of yellow fever. Although of a full and plethoric habit, she had spent several years in New Orleans, and the successful issue of her case was in a measure due to this fact.

. William D., attacked with severe fever in head and back, and high fever at 8 o'clock A. M., September 11th. Saw the patient for the first time at 6, P. M.; pulse 150, temperature under tongue 106°, great congestion of capillaries of face; eyes red and congested, tongue red at tip and edges. B. Hydrargyri sub-chloridi; quinæ sulph. aa grs. xx. Mix. Administer at once. B. Olei ricini f\( \frac{7}{3} \)ji. Administer in 3 hours. B. Tinct. veratri viridis \( \mathbb{M} \) iv., every two hours.

September 12th, 11 o'clock, A. M. Pulse 113, temperature 104.2°. Retained the powder, but rejected the castor oil. Bowels have not been moved.

B. Hydrargyri sub-chloridi grs. x. Administer at once. Continue tincture of veratrum viride, 4 drops every 4 hours. Rub the surface with fresh sweet oil.

8 o'clock, P. M. Pulse 112, temperature 104.5°.

September 13th, 11 o'clock, A. M. Pulse 100, temperature 103.7°. Patient has had two copious actions from the bowels, fœcal matters of a dark greenish black color and most offensive odor.

10 o'clock, P. M. Nausea and vomiting. Pulse 88, temperature 102,1°.

September 14th, 7 o'clock, A. M. Pulse 82, temperature 100°. There has been a marked fall in the pulse and temperature, but then there has been no improvement of the symptoms. Only one quart of urine has been excreted during the past 48 hours. Urine turbid from the presence of granular yellow casts and epithelial cells. Chemical analysis showed it to be loaded with albumen. Bacteria were developed in great numbers and with great rapidity in the urine. Passed a restless night, with incessant vomiting, skin of a mottled purplish and yellow hue. Has passed no urine during the past twelve hours, and upon careful examination, the bladder is found to contain no urine. Threw up black vomit this morning for the

first time. Throughout the attack there has been great irritability of the stomach, even the introduction of the bulb of the thermometer under the tongue, has excited violent retching and vomiting. With the appearance of the black vomit there has been a marked reduction of temprerature. Applied four cut cups over epigastrium, and four over the small of the back in the region of the kidneys. The blood upon exposure to the atmosphere presented a brilliant scarlet color, and flowed slowly, as if there was great torpor of the capillary circulation. The cut cups appeared to be productive of good, as the vomiting was temporarily arrested, and the nervous excitement and restlessness appeared to be at least temporarily subdued. I hastened to my laboratory with the blood of the patient which had been received into glass stoppered bottles, chemically clean, and which had never been used before, and subjected the blood to microscopical examination. The colored blood corpuscles presented a stellate and granular appearance as if minute globules were forming upon the surface of the cell membrane. I also detected bacteria and small globular bodies with nuclei, and rotating and vibrating globules, apparently surrounded by scilliae, in the blood of this patient, which were similar in all respects to those observed in the vellow fever air, previously described.

Careful drawings were made and preserved of the blood of this case, and the blood itself was submitted to the examination of three members of the Board of Health, and to Prof. McCulloch, of Baton Rouge, Prof. Elliott, of the Medical Department of the University of Louisiana, Mr. Cruitaich, Prussian Consul, Dr. Davidson and other physicians, and no difference existed amongst those observing the fresh and dried blood under the microscope, as to the form of the blood corpuscles, and the presence of the bacteria, and the bodies resembling in all respects spores. Some of the bacteria bore a striking resemblance to bacillus anthracis, of splenic fever, others to spirochaete obermeiri of relapsing fever. The cells resemble those of micrococcus bombycis, and of micrococcus mae and torulae. The delicate filaments appeared to be similar to those of cladotaryx dichtoma.

When the blood was allowed to stand in well stopped glass vessels, it was found upon the succeeding day, that these organisms had greatly multiplied.

The fresh blood injected subcutaneously into living animals produced no ill effects, whilst the blood which was allowed to putrefy for twenty-four hours, proved rapidly fatal

Portions of blood were placed in glass vessels, the mouths of which were covered with cotton wool. The following experiments were made:

1. Simple blood. At the end of one week all the colored blood corpuscles had disappeared and an immense number of

bacteria had been developed, many of which resembled the spermatozoa, having a distinct cell with a tail-like proluogation. These appeared to be similar to the bacillus substilis, with spores at one end. I also observed micrococci, vibrios, spirochaete and spirillæ.

- 2. Blood mixed with water, about one part of the former to ten (10) parts of the latter. At the end of one week the colored blood corpuscles have disappeared and numerous bacteria, resembling chiefly bacillus anthracis, bacterium termo and spirillum tenue and micrococci.
- 3. Blood mixed with a solution of crystalized (white) sugar. At the end of a week a distinct fungoid mass with a deep yellow surface had formed upon the free surface of the liquid. Under the microscope this fungus resembled the aspergillus glaucus. The spores varied in diameter from one four-thousandth to one three-thousandth of an inch in diameter. The sporiferous stems, with spores, the sporangium, mycelium and zoospores were well developed.
- 4. Blood mixed with lime water. At the end of one week numerous bacteria and delicate elongated dichotoma threads had formed.

September 14th, 7 o'clock, P. M. Pulse 90, temperature 101°. Has thrown up a small quantity of black vomit. Obtained a large, wide mouth glass jar, of one gallon capacity, and ordered the nurse to collect all the black vomit as it was discharged. All hope of relieving the patient appears to be lost. Urinary suppression absolute; not a drop of urine has been excreted during the day, and careful examination shows the bladder to be completely empty.

September 15th, 10 o'clock, A. M. Pulse 96, temperature 101°. Has thrown up and gulped up during the past twelve hours about one gallon of black vomit. The patient gulps up the black vomit, which often resembles dark blood, apparently without any special effort. The reaction of the black vomit is slightly acid. It emits a foul, putrid smell; there is also combined with the putrid odor, a urinous smell. The breath and entire body emit a strong urinous smell. Intense jaundice, intellect clear. The patient appears to be wholly unconscious of his impending destruction, and was reading a newspaper as I entered his sick chamber. Says that he feels quite well. Even as he gulps up large mouthfuls of almost pure blood, he appears to be wholly unconscious of the meaning of this dreadful symptom.

The black vomit was conveyed immediately to my laboratory and subjected to chemical and microscopical examination.

At 2 o'clock, P. M., this patient was seized with uremic convulsions and died at 4 o'clock, P. M.

Examination of Black Vomit. - Under the microscope the

black vomit contained colored blood corpuscles, dark granular masses of altered blood corpuscles and hæmatin; and the whole mass literally swarmed with bacteria, micrococci, spirillum undula, vibro serpens spirochaete plicatitis, spirochaete obermeii spirillum tenne, micrococci, and delicate dichotoma threads, and the thallus of a delicate fungus, the diameter of which did not exceed one ten-thousandth of an inch.

When injected subcutaneously into animals, death occurred in 12 hours, and the blood of animals thus destroyed contained numerous bacteria.

I preserved a large portion of this black vomit in my laboratory, where it was exposed freely to the cold weather of November, December and January.

In the early part of January, whilst the weather was cold, I performed the following experiments:

1st. Eight ounces of the black vomit were introduced into a capacious glass retort and distilled by heat. The distillate was collected; it was clear like distilled water, but emitted a foul, putrid odor. This distillate was injected subcutaneously into a healthy rabbit. No marked ill effects were observed and the rabbit survived the operation.

2d. Eight ounces of the black vomit were boiled in a glass vessel for two hours, and well filtered.

The filtered liquid was then injected subcutaneausly into the hind legs of a rabbit. Beyond slight febrile excitement, no ill effects were observed, and the animal survived the operation.

When the filtered liquid was set aside in carefully stoppered bottles and removed to a warm room (my library) in which a fire was kept burning during the day, and examined at regular intervals, bacteria and micrococci were developed in considerable number, and the liquid assumed a turbid appearance from their presence. Amongst the forms of the bacteria I recognized those which resembled most nearly bacillus anthracis, spirochaete obermeiri, spirochaete plicatis, spirillum undulate, spirillum tenue, bacillus subtilis, bacterium termo, microccus ureæ, and micrococus bombycis. We have seen in this observation that the bacteria reappeared in the filtered liquid although it had been subjected to a boiling temperature for the space of two hours. The reappearance of the bacteria must be referred either to spontaneous generation, or to the survival of the germs even after the continuance of the boiling heat, 212° F., for two hours.

3d. Black vomit filtered through German filtering paper, and filtered liquid injected subcutaneously into rabbits beneath skin of hind quarters. Both legs as well as the testicles were swollen and fever was excited for some eight days.

4th. The black vomit itself which emitted a foul stinking odor and a strong urinous smell like the bloody urine of ma-

larial hæmaturia, was injected into the subcutaneous tissue of the posterior extremities of an active buck rabbit. The putrid black vomit induced fever and great swelling of the legs and thighs and of the testicles. Both testicles became gangrenous and were entirely destroyed. The lower extremities became ulcerated and most of the hair fell off. The animal, however, survived these terrible effects and is now restored to its usual health, although the hind legs present a bare and a atrophied appearance.

Commentary.—In the preceding case, chemical analysis showed the presence of urea in large amounts in the black vomit. The copious excretion of the black vomit was concomitant with or rather consecutive to the ablation of the function of the kidneys, and to a certain extent must be regarded as salutary in relieving the blood of an excess of urea and urinary constituents, and at the same time relaxing the pressure within the blood-vessels consequent upon the failure of the function of the kidneys.

Both the blood and black vomit contained bacteria of various species.

The fresh blood was inocuous when injected subcutaneously; the putrid blood proved rapidly fatal.

During the hot weather of summer, the black vomit swarming with bacteria produced death rapidly; during the cold weather of winter, the same putrid black vomit excited fever and extensive gangrene.

We reserve the consideration of the significance of the bacteria in the blood and black vomit in yellow fever, to another occasion.

CHEMICAL CHANGES OF THE BLOOD IN YELLOW FEVER.

I have observed by accurate chemical analysis the following changes in the blood in this disease:

- 1st. Marked diminution of the fibrin.
- 2d. Increase of fatty matters.
- 3d. Accumulation of biliary and urinary constituents.

[The preceding changes were illustrated by numerous cases and analyses, which are necessarily omitted from the report of this lecture.]

We will consider in the next place the changes of the temperature, pulse and respiration in yellow fever.

CHANGES OF THE TEMPERATURE, PULSE AND RESPIRATION IN YELLOW FEVER EPIDEMIC 1878.

I desire, gentlemen, in the first place, to present to your careful consideration the *actual observations* which I have consolidated and recorded in two tables. The first table, embracing ninety-three cases, has been consolidated from my own records at the bedside of my patients, in private practice during the epidemic of 1878.

The second table embraces the records of ninety-five cases, recorded chiefly at my request and direction in the wards of the Charity Hospital by the resident students.

The third table embraces the records of the respirations per minute in the various cases.

The letter N, under the head of Results, indicates that the patient was born in New Orleans; all others thus indicated were born in foreign countries or in other States than Louisiana.

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Respiration per minute in Cases of Yellow Fever, Epidemic 1878.

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of Case.	lst	day.	2d	day.	3d	day.	4th	day	5th	day	6th	day.	7th	day	8th	day.
No.	M	E.	M.	E	M.	E.	M.	E.	M	E.	M.	E.	M.	E.	M.	E.
94		1				1			42			-				
96			50	26	36	36	26	30	4.0		• •	-				
97			18	28	24	20	60	30	26	26	36	36	36			
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142			40	32	30	15	30	37	35	.16	31	30	32	31	28	28
143		36		50	48	30	35	29	46 36	44	43	30	32	39	28	44
111					24	30	30	34 48	40	44	44	36	40	40	37	42
146		1							24			36				
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153		40	38	42	36	33	42	42	34	34	30	28	30	26	24	24
154		30	30	30	24	30	24	24	24	24	32				24	24
155			30		20	34			22		33					
156				i8	24	16	30	29	22 18		22 18	28		18	24	27 24
157				10	44	10	18	- 43	10		10	20		10	44	24

Respiration per minute in Cases of Yellow Fever, Epidemic 1878-Continued.

Case.	1st day. 2d day		day.	3d	day.	4th day.		5th day.		6th day.		7th day		8th day.		
of				1		1		1		1		1		1		
No.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.
158				30	34	22	20	36	34	33	25	18	20	24	24	16
159					24		12	28	**					**	30	32
161						32	15	42	38			42		42		
162						32	25	42	38							
163		0.4		00	40	=-	7.5		32		30					
164		34		36	48	50	42					000			50	
165		0.4	10	00	26	2.5	00	30				27	28		36	32
168		24	18	28	16	28	28	30	32	24	20	20	16	40	30	28
169		00	24	28	29	24	30	24	24	28	32	32	32 20	24	34 24	24
170		26 32	28	28	22	22	24	24 34	24	32	28	20 24	24	24	24	24
172 175		3%	24	32	32 28	28 24	32	32	28	28	28	24	24	24	24	28
182			24	24	22	30	22	30	18	20	. 20	24	24	24	24	40
185			20	24	22	21	20	20	22	24	28					
186			40	34	30	45	30	36	36	32		30	40	32	32	
187		24	32	20	28	32	16	30	100	20	20	22	29	18	18	18
104	05	24	104	1 20	40	104	10		]	120	20	1 24	120	10	110	10

#### CHANGES OF TEMPERATURE IN YELLOW FEVER-FATAL CASES.

In the first table, including 93 cases occurring in my private practice, and selected from the total number 256 treated during the epidemic of 1878, 35 were natives of New Orleans, and of this number 6 terminated fatally; the ages being respectively 3, 8, 8, 13, 18 and 21 years. In the first fatal case amongst the natives recorded in the table (No. 24), the maximum temperature 104.2°, was reached in the evening of the first day, and also in the evening of the second day. The lowest temperature 103°, was observed upon the morning of the second day. Throughout the disease, the temperatures continued at an elevated point, and was 104° a few hours before death on the morning of the fourth day, the pulse also was rapid, varying from 132 to 150.

This case (female, age 8 years,) occurred during intensely hot weather in August, the thermometer ranging above and rarely below 90° F., in the shade, and presented a continuous paroxysm of a little over three days duration, and was character-

ized throughout by grave cerebral symptoms.

In the second fatal case (No. 30, male, age 13), the initial temperature was 103.2°, which continued for two days and fell to 102° on the 3d, 4th and 5th days, but rose to 104.5° on the morning of the 8th day. Death took place on the 10th day. Quinine freely administered produced no reduction of temperature. The pulse fell from 128 on the 1st day to 84 on the 4th and 5th days.

This case may be regarded as a continued fever of 10 days duration, with a rise of temperature during the last days above the initial temperature. In its general progress this

case resembled typhoid fever, with this difference, that the pulse was slower than in cases of typhoid fever occurring

on patients of similar ages.

The third fatal case (No. 39), was that of a female, aged 18 years, which I saw for the first time on the 4th day, when the temperature was 104° and the pulse 130; the patient was in a state of intense mental excitement and agitation, which was followed shortly by delirium. On the 5th day, the temperature reached 105°, and remained at this point upon the day of death. This patient presented a rapid pulse (130 to 146) and elevated temperature throughout the disease. The paroxysm of fever in this case continued six days, and was wholly uninfluenced by quinine.

The fourth case (No. 54, female, age 21) had suffered with chills and fever contracted out of the city on the Mississippi river, for several months before the attack of fever. The temperature which was 103° upon the evening of the second day, fell to 101.5°, 101.8° upon the 3d, 4th and 5th days, but suddenly rose to 106.2°, with a pulse of 130 upon the morning of the 6th day. Urinary suppression was complete, speedily fol-

lowed by convulsious, coma and death.

The fifth case (case 72, female, aged 8 years), was characterized by high temperature and slow sighing respiration, which at times was not more than 4 per minute. On the morning of the 4th day, the temperature was 103°, and the pulse 145. On the morning of the 5th day, temperature 105.5°, pulse 150. On the morning of the 7th day, the pulse was only 96, and the temperature had fallen to 101°, but it rose in the evening to 104°, and the pulse to 104. In this case there was a decided remission of the fever on the 6th day. Black vomit appeared on the 5th day, and death took place on the 7th day, the slow respiration was attended with disturbance of vision, ending in total blindness.

The sixth fatal case (No. 85, child, female, 3 years of age), presented a temperature of 105°, and a pulse of 160 beats per minute, at the onset of the disease. The temperature fell to 102° on the 2d and 3d days, but rose again to 104° (pulse 160), on the morning of the 4th day. Black vomit, hæmorrhage from the bowels and urinary suppression occurred on the 4th day, and the child died on the morning of the 5th day in convulsions.

In the 29 cases of natives which recovered the maximum temperatures and course of the disease were as follows: case 13, male, age 20, 102°, single paroxysm of fever, of 36 hours duration, no secondary rise; case 15, 103° 1st day, paroxysm 48 hours, secondary fever 101° on 3d day; case 16, 102° paroxysm 36 hours, no secondary rise; case 17, 102°, 48 hours, no secondary rise; case 18, 104° 48 hours, no secondary rise of temperature; case 19, 102° 72 hours; case 20, 103° 6 days; case 21, 103.2°, fever lasted 11 days; case 22, 103.5°, 48 hours no secondary rise; case 23, 103°, 5 days; case 34, 103°, 72

hours, no secondary rise; case 37, 104°, 72 hours, no secondary rise; case 50, 104.2°, 48 hours, no secondary rise; case 51, 102°, 9 days; case 68, 101.8°, 6 days; case 69, 101°, 48 hours; case 73, 104.5°, 5 days; case 74, 104.5°, 5 days; case 76, 103°, 3 days; case 80, 104.3°, 4 days; case 82, 104.5°, 7 days; case 83, 103.5°, 48 hours; case 86, 103.2°, 48 hours; case 87, 101°. 48 hours; case 88, 101.8°, 48 hours; case 89, 103°, 72 hours; case 90, 102.5°, 4 days. Of the 57 (fifty-seven) cases of yellow fever recorded in the table as occurring amongst those not native to Louisiana (foreigners and natives of northern and western States), eleven terminated fatally, making a total mortality in the 93 cases recorded in the table of seventeen. The entire mortality of the 256 cases treated by the author during the epidemic, was 18. It is evident therefore that the preceding table embraces all the fatal cases, with one exception, which occurred in my practice, and is on this account especially valuable as illustrating the changes of the temperature and pulse in yellow fever. I have excluded of course, from these statistics, the cases in which I was called in consultation by other physicians, for manifold reasons, but chiefly because such cases were in almost every instance hopeless, and no real value for comparison could be obtained from one or two observations.

#### CHANGES OF TEMPERATURE IN FATAL CASES OF FOREIGNERS.

In the 11 fatal cases of yellow fever amongst foreigners, and natives of other States, the maximum temperatures and course of the disease were as follows: case 6, temperature 102° and pulse 96 on the 6th day, black vomit having appeared on the 5th day and death on the 7th day; case 7, maximum temperature 106° on 4th day, temperature on day of death, 7th day, 104°, fever continuous for seven days; case 8, maximum temperature 105.5°, black vomit 6th day, death 7th day, temperature 1020, pulse 170 a short time before death; case 26, 104.5° continuous fever up to occurrence of black vomit on 5th day, death on 6th day; case 32, 104.6° 3d day, continuous fever 9 days, death on 10th day; case 33, 105.5° 3d day, continuous fever during 4 days, until occurrence of death on 5th day; case 39, case 42, 105.60 on 5th day, urinary suppression and black vomit, death 5th day; case 43, 105.2° on 5th and 6th days, black vomit and death 6th day; case 46, 106° 1st day, continued fever 5 days, black vomit 5th day, death 6th day; case 57, 1060 1st day, continuous fever 4 days, black vomit 4th day, death 5th day; case 60, 103.5° 2d day, continuous fever, died 4th day.

## CHANGES OF TEMPERATURE IN CASES THAT RECOVERED OF FOREIGNERS.

Amongst the 46 cases which recovered, the following facts may be briefly noted: In the 5th case the fever continued five

days, the maximum temperature 104.5°, occurred upon the evening of the 3d day, and notwithstanding the supervention of black vomit this case recovered.

In the 11th case the temperature oscillated between 100° and 103° during a period of 10 days. In the 12th case, the maximum temperature was reached (103.5°) on the morning of the first day. There was a complete remission on the 4th day, and a distinct increment of temperature on the 6th day. In the 28th case, the temperature stood at 104° on the third and 4th days, fell to 101° on the 6th and 7th days, and rose to 102.2° to 102.8° on the 8th, 9th and 10th days. In the 29th case the maximum temperature, 104°, was reached upon the morning of the first day, and the tebrile excitement continued for 4 days, and there was no secondary rise of temperature. In the 40th case the maximum temperature, 104°, was reached on the 1st day, the temperature declined to 102.20 on the 2d day, rose to 1020 on the 5th day, and remitted on the 6th and 7th days. case furnished an example of what might be called the typhoid type of yellow fever; the maximum temperature, 1030; was not reached until the 6th day, and the fever continued with but slight variation for 12 days, and was attended with absolute prostration of the muscular and nervous forces, obstinate constipation, and distressing and dangerous tympanitis. In the 45th case the fever continued 7 days, and the highest temperature, 103.2°, was reached on the 5th day. In the 47th case the maximum temperature, 104.5°, occurred upon the 1st day, and there was not a distinct remission, or rather intermission, of the fever until the 7th day. In the 48th case the maximum temperature, 104.5°, occurred on the 1st day, the febrile heat declined on the 3d and 4th days and rose again on the 6th day, and intermitted on the 7th day. In the 49th case there was a remission on the 5th day, and an increment of fever on the 6th day. In the 50th case the maximum temperature, 103.2°, occurred on the second day, and there was no remission until the 18th day. In the 55th case the initial temperature was 104°, and the fever continued only about 36 hours. In the 56th case we note three distinct elevations of temperature: on the 1st day 104°, 3d day 103.2°, on the 5th day 103.6°; on the 2d, 4th and 6th days the temperature ranged frem 98.5° to 99.2°.

Without prosecuting the analysis farther, the preceding facts are sufficient to show that the yellow fever of 1878, in New Orleans, was in many cases characterized by exacerbations and remissions, and that the febrile excitement frequently continued from five to ten days; and also that as a general rule, the severity of the disease and the frequency of the fatal results were in direct proportion to the height of the initial temperature.

In the second table, consolidated from the observations recorded in the Charity Hospital, the changes of the temperature and pulse are given in ninety-five cases of yellow fever,

of which 58 terminated fatally, and 37 recovered, and of the entire number only two were reported as natives of New Orleans.

#### RAPID RISE OF TEMPERATURE BEFORE DEATH.

We will first consider briefly the cases in which the temperature rose abruptly before death.

In the 94th case, the temperature rose on the 5th day,

abruptly from 101.75° to 111° F.

From the clinical notes of the resident student P. B. Mc. Cutchon, Jr.,\* we gather that the patient, a female, aged 30. native of Germany, was transferred from the Commercial Hotel. corner of Girod and Peters streets, on the morning of August She was seized with fever July 29th, and vomited black matter on the 1st of August. August 2d, 91, A. M., restless and nervous, turning from side to side of bed; some headache. great thirst, hot dry skin, eyes congested, urine loaded with albumen, third wonth of pregnancy, respiration 42, pulse 98, temperature of axilla 101.75°. 12.30, delirious and speechless. 2. P. M., respiration stertorous. The thermometer was placed in the axilla, and in 5 minutes recorded 110.75°, and in 5 minutes more recorded 1110, no pulse could be felt at the wrist. temperature in the axilla remained at 111°, until the moment of death at 2.40 o'clock, P. M. Five hours after death the temperature of the axilla was 105.5°, and in the epigastric region, the bulb of the thermometer being introduced through an incision, 109°. It is worthy of note that in this case the pulse at the commencement of the rise of temperature was only 98, and at the heigth of the increase of heat, the pulse could not At the commencement of the sudden rise of temperature, the respiration on the other hand numbered 42 per min These facts would tend to indicate that the rapid rise of temperature was not only the cause of death, preceded by coma and followed by arrest of the action of the heart, but also that the rapid rise of the bodily heat was due to two causes: 1st. To the action of the febrile poison upon the blood exciting rapid chemical change and increased heat; and 2d, to the action of the febrile poison upon those portions of the neryous system which preside over those changes of nutrition and secretion and chemical action, which result in the development of animal heat. In the 96th case we observe a similar rise of temperature towards the close of life, but to a less degree, viz: 106.8° on the 4th day. The 97th case manifested a marked rise of temperature (105°), on the 5th, and (106.5°) on the sixth day upon which the patient died. Case 98 manifested a marked rise of temperature on the 6th and 7th days, the temperature in the evening of the 7th day being 106.4°. and the pulse 156 shortly before death. In the 105th case, the temperature rose from

<sup>\*</sup>Now M. D.

100.7° in the morning, to 105° in the evening of the 4th day, and the patient died, the prominent symptoms in addition to the rise of temperature being black vomit and suppession of urine. The 110th case manifested high temperatures, with slight

variations up to the time of death.

In the 122d case, there was a sudden and remarkable rise of temperature on the 9th day of the disease. Between the 1st and 5th days, the temperature oscillated between 100.8° and 103°; on the 8th day it fell to 98.5°, and on the 9th day rose to 107.2°. This last temperature was taken by Mr. F. W. Parham,\* resident student of Charity Hospital, during the death agony, forty-five minutes before death. In the 133d case, the patient entered the Charity Hospital on the 2d day of the disease, with a temperature of 104.4°, pulse 106, respiration 36. On the third day the temperature of the axilla stood at 105.3° in the morning, and in the evening 107.6°. Black vomit preceded death on the 3st day. In the 135th case death took place on the 5th day, the last observations preceding death being temperature 105°, pulse 140, respiration 59.

In the 136th case the temperature on the 4th, 5th and 6th days ranged between 102° and 103°, and on the 7th day, upon which the patient threw up black vomit and died, reached 104.6°. In the 141st case the temperature was 103.8° on the twelfth day, upon which death too place. In the 144th case the patient died on the 4th day with a temperature of 104°. In the 145th case the patient ejected black vomit on the 6th day, and died on the 9th day with a temperature of 104.3°. In the 146th case the patient entered the Charity hospital on the 5th day of the disease with a temperature of 101.2°, which, upon the 6th day in the morning, rose to 107.5°, and in the evening to 109°. This last temperature was taken by the resident student, Mr. F. W.

Parham, during the death agony.

In the 154th case the patient (male, age 38, native of Ireland), entered the Charity Hospital 12 hours after the onset of yellow fever, with a temperature of 102.8°. Pulse 96, respiration 30. On the 2d, 3d, 4th and 5th days the temperature ranged between 100 and 102.2°, pulse 66 to 90, respiration 24 to 30. On the 6th day temperature rose to 104° in the evening; on the morning of the 7th day it reached 105.2°; on the 8th morning 102.6°, evening 103.6°. On the 9th day the temperature in the morning was 105.5°, in the afternoon 107°; one hour before death 110°; ten minutes after death 111.1° F. Acording to the resident student, Mr. G. L. Dunlap,† who recorded the temperature in this case, this patient bled from the eyes and nose.

In the 163d case, the patient entered the Charity Hospital with a temperature of 104.5°, the next day it rose to 105.3°, and the following day fell to 102°, and in the evening of the 4th day rose rapidly to 107.2°, reaching this point half an hour

<sup>\*</sup>Now M. D.

t Now M. D.

before death. Death in this case, was preceded by delirium, black vomit and coma.

In the 167th case, the patient entered the Charity Hospital with a temperature of 104°; between the 2d and 3d days, the temperature ranged from 100.6 to 103°, and on the evening of the 4th day rose to 105.2°. In this case ureuric poisoning, con-

vulsions and delirium preceded death.

In the 168th case, the patient, aged 33 years, native of Germany, entered the Charity Hospital on the evening of the 1st day, with a temperature of 104°; on the 2d and 3d days the temperature reached 105°. On the 4th, 5th, 6th and 7th days, the temperature descended from 103.7 to 98.2°. On the evening of the 8th day, rose to 105°. On the morning of the 9th day, stood at 105.3°. At 3:25 o'clock, P. M., 5 minutes before death 107°, and at 3:35 o'clock, P. M., 5 minutes after death, the temperature of the axilla, as registered by my hospital student, Mr. C. A. Bourgeois, was 108.2° F. In a case of yellow fever, complicated with pneumonia, not recorded in the preceding table, the temperature during the 8th, 9th, 10th and 11th (last days of the disease), ranged between 102 and 105°. As a general rule, the cases attended with high temperature, that is above 1050, were fatal, but notable exceptions occurred, as in the case 188, of the table, in which the temperature rose from 103.2° in the evening of the 4th day, to 107.6° in the evening of the 5th day. By cold sponging, the temperature was reduced on the 6th day to 101°. In the evening it rose again to 103.5°, but upon the 7th, 8th, 9th and 10th days, gradually descended to the normal standard and the patient recovered.

It is evident from a careful examination of the preceding facts, that the rapid rise of temperature, in the pro-agonistic state, as well as in the death agony itself, occurred in patients who had before shown high febrile degrees of warmth, and also in those whose illness had previously furnished no remarkable elevations of temperature. In this respect, yellow fever does not differ materially from malignant febrile affections, of an infectious character, as abdominal typhus, exanthemic or true typhus, scarlatina, variola, pyæmia, septicæmia. In sun stroke, which is clearly in its origin, not of an infectious character, we observe a similar rise of temperature to extraordinary beights, in the proagonistic state, and in the death agony itself, and for some moments following death.

In fatal cases of small-pox, in common with Simon, I have seen the temperature in the last hours of life, rise quickly from moderate heights to 111° F., and even to 112.5° F.

A rapid rise of temperature in the death agony is sometimes observed, though less commonly in measles, pneumonia, acute miliary tuberculosis, endo-carditis, malignant peritonitis, facial erysipelas, and rheumatic fever. The investigations of Wunderlich and others, have shown that in all these cases very

severe cerebral disturbances are often met with, but are by no means essential, in order to induce the excessive temperature in the death agony; and it would rather seem that extensive

chemical processes of a zymotic nature are the causes.

On the other hand it has been shown, chiefly by Wunderlich, that there are diseases in which the affection of the nervous centres appears to determine the essential, or one of the essential, disturbances, as meningitis of the convexity, softening of the brain, tetanus, epilepsy, hysteria, and other so-called central neuroses; diseases in which the temperature generally begins to rise for the first time in the last days of life, and very rapidly reaches enormous heights. It may be questioned in these cases, whether the fatal rise of temperature is a symptom and effect of the death agony and the processes which form its basis, be the original cause of the agony that is the fatal termination. Thus Sentor, holding the latter view, concludes that the agony and death occur because from some cause or other the temperature rises to a height incompatible with life.

Wunderlich, on the contrary, regards the phenomena as not so simple. The high temperatures of the agony, must be differently estimated, according as they take their points of departure from an immediately preceding high febrile process, or on the other hand attain suddenly to enormous heights, after preceding moderate temperatures. However, it must be conceded that a fresh state of affairs is inaugurated, a final process, which is very frequently and thus early and thus undoubtedly prejudicial from no other cause so much as from

the enormous elevation of temperature.

# POST MORTEM RISE OF TEMPERATURE.

In the majority of cases of yellow fever, as in other diseases, after death the temperature begins to fall, and the decrease is slow at first, then more or less quickened in accordance with the depression or elevation of the surrounding temperature. In some cases, however, as in No. 94, 154 and 168, the temperature not only rose rapidly during the death agony, but also continued to rise for some time after death.

This post mortem rise of temperature, which appears to have been first observed in yellow fever, by the late Dr. Bennet Dowler, of New Orleans, was again observed during the

epidemic of 1878 in New Orleans.

It is well known that the post mortem rise of temperature sometimes occurs in cholera, but more especially in cases of disease which have terminated, as in yellow fever, small-pox and sunstroke, with hyperpyretic temperatures, and most especially in those in which the rise of temperature has continued to the very moment of death.

The remarkable phenomenon of post-mortem rise of tempera-

ture has been referred to two causes: when death occurs, the cooling which goes on by the introduction of air in respiration, and by perspiration, comes to an end, whilst the warmthproducing processes of the economy are not so immediately terminated. And new sources of warmth are opened after death, by changes in the substance of the muscles and by postmortem decomposition, two sources which are foreign to the living body, and which are sufficient to maintain the corpse for a short time at an equilibrium of temperature against the losses of heat it suffers, and sometimes even to raise the temperature one or two degrees. It is possible that in yellow fever the suppression of the function of the kidneys, as well as the rapid progress of the disease, and the presence of bacteria, and living animalculæ or spores in the blood, together with the chemical alterations of the circulating fluid, may furnish the necessary conditions for rapid chemical change, and consequent elevation of post-mortem temperature.

# DEATH OCCURRING WITH LOW TEMPERATURE.

The preceding data, embodied in the tables, also illustrate the fact that in yellow fever, as in other febrile diseases, death occurs with a low temperature; and that in the former this fall of the temperature is frequently preceded and accompanied by hæmorrhage from the stomach, bowels and uterus. The fall in the temperature was frequently, but not always accompanied by increased frequency of the pulse and respiration. These propositions are fully sustained by the records of cases 104, 111, 112, 113, 114, 127, 137, 139, 140, 141, 143, 150, 152, 155, 161, 162, 165, 166, 173, 174, 178, 179, 180, 181 and 184.

# MAXIMUM TEMPERATURES IN CASES WHICH RECOVERED.

In these cases recorded in the second table, which recovered, the maximum temperatures were reached upon the days indicated.

Case 99, 3d day 104°; case 100, 3d day 104.5°; case 101, 1st day 105°; case 102, 3d day 104.5°; case 103, 4th day 104°; case 106, 2d day 103.5°; case 107, 1st day 102.5°; case 108, 5th day 101.3°; case 109, 2d day 102.5°; case 115, 2d day 104.5°; case 116, 1st day 102°; case 119, 1st and 2d days 101°; case 120, 2d day 102.3°; case 121, 2d day 101°; case 123, 2d day 104.6°; case 125, 3d day 105°; case 127, 2d day 104.5°; case 128, 1st day, 104°; case 132, 4th day 103°; case 138, 2d and 3d days 104°; case 139, 2d day 105.5°; case 140, 2d day 104.8°; case 142, 1st day 105°; case 151, 1st day 104°; case 153, 3d day 104°; case 158, 2d day 104°; case 159, 3d day 104°; case 150, 3d day 102.2°; case 171, 3d day 102.2; case 172, 3d day 104.8°; case 185, 1st day 105°; case 186, 4th day 104.7°; case 187, 2d day 105°; in the 188th case, 4th day 107.6°.

It will be observed in reference to the cases observed at the Charity Hospital, in like manner with those treated in private

practice, that the fever varied in length from 48 hours to ten and even 12 days, and in many cases distinct remissions and intermissions were noted during the progress of the disease, no definite rule could be deduced as to the exact recurrence of the intermissions and remissions, and we were inclined to refer the secondary form in many cases to the effects of the lesions induced by and during the febrile process upon certain organs as the cerebro-spinal system, heart, liver, stomach and kidneys. The occurrence of abscesses and carbuncles often produced seconday elevations of temperature. One of the most truitful sources of secondary fever (so-called relapses) was the exertion too soon of the enfeebled muscular and nervous structures, in getting out of bed and in endeavoring to walk about and attend to business. As the disease progressed, the pulse which was greatly accelerated at the onset, became slower, and often continued not far above, and even below, the normal standard with elevated temperature.

# A Case of Lithotomy.

By JOHN GODFREY, M. D.

Assistant Surgeon Marine Hospital Service, Mobile, Ala.

The following case is reported principally as a contribution to the statistics of operations of this class, and as an additional argument to cut without delay whenever the accident which necessitated the operation should occur, forasmuch as such accidents have probably not happened for the last time. For, notwithstanding the patient was finally brought out of his difficulty, an immediate extraction in the way it was done would have saved him many months of extreme anxiety and suffering:

On the 25th of September, 1878, I took charge of the Marine Hospital in Mobile, and found among those on the sick list seaman Thomas, suffering from cystic irritation. He had been cut for stricture with the Maisonneuve instrument about six months previously, at which time, unfortunately, the filiform was incised and a part of it left in the bladder.

Repeated attempts were made immediately after and at various subsequent intervals to remove the body, but without avail. Irritation of the bladder soon set in, giving rise to the usual symptoms of vesical calculus. Not long before I saw

the patient he had bugun to pass small calculous concretions, about half the size of a rice grain, and soon thereafter a number of pieces with a hole in the centre, showing that they had been moulded about the foreign body and had become detached.

At this time micturition was constant, difficult, and attended by a great deal of pain, and altogether his condition was quite distressing.

Sound exploration revealed calculous formation, but following the example of my predecessor, I also made an effort to extract per urethram; as was expected, failure ensued. I now determined to perform lithotomy. Meantime yellow fever began to spread; and partly on account of the engrossing nature of that disease, and the suspicion that such surgery as could wait should be deferred until its subsidence, and particularly on account of the debilitated and irritable condition of the patient, the operation was postponed till the 25th of November, at which time he was thought to be built up sufficiently to stand it.

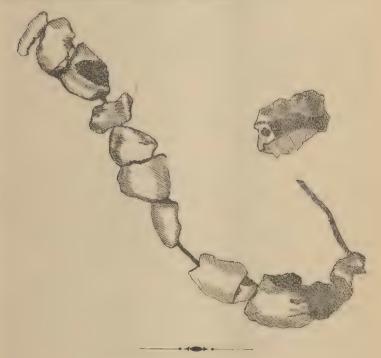
With the assistance of Drs. Goode and Fournier, Surgeon Hutton, Marine Hospital Service, giving the chloroform, and Dr. Scales controlling the staff, I opened the bladder by the lateral method and succeeded in bringing away after many tedious attempts, the filiform, to which were attached thirteen calculi—or rather twelve—one coming off in the wound and removed by the hand.

As intimated, the operation lasted longer than usual; owing in part to the peculiar shape of the body, within the bladder, which I found unexpectedly to be curled upon itself, and slightly agglutinated by a species of false membrane, quite thin and very slippery; in part to ill-luck or lack of cunning in getting the ever-shifting substance within the blades of the forceps. The bladder was then carefully and effectually syringed by my friend Dr. Goode, the patient put to bed, and a skilled attendant set to watch him.

The further history of the case contains little of interest. For the first half day there was a good deal of nausea. Three hours after the operation two slight rigors came on lasting only a few minutes each, followed by inconsiderable rise of temperature. The second day the patient had diarrhoea which

yielded to treatment the day following. Up to the fifth day the temperature ranged from three-fourths to one and a half degrees above normal; pulse from eighty to ninety-five. From that time every thing went smoothly. The wound healed kindly, and in three weeks the patient was going about the ward.

The concretions are remarkably light, and appear to be of the ammonia-magnesia-phosphatic variety. The accompanying figure gives a correct outline—natural size—of the calculi as they appear strung upon the guide.



# CORRESPONDENCE.

# Messrs. Editors:

In a former letter I made brief mention of the Massachusetts law which about ten years ago abolished the ancient, wretched coroner system, and substituted medical examiners who are thoroughly acquainted with their duties. Formerly the coroner might be a shopkeeper, a lawyer, a regular physician, a quack,

an undertaker, or whosoever might have sufficient influence among petty ward politicians to secure recommendation and an appointment. While Loudon, with its enormous population, had four coroners, New York four, Brooklyn, Philadelphia, New New Orleans and Chicago two each, and San Francisco, Wash. ington, Baltimore and Cincinnati but one each, our Suffolk County, consisting chiefly of Boston, had forty-seven coroners, of whom Boston proper had forty-three. Of these the majority were called doctors, many of them being irregulars and quacks, with a fair sprinkling of regular physicians; there were lawyers, etc.,—anybody could be made a coroner. Among these men were two in particular who made themselves notorious by their very peculiar official mismanagement. One of them was obliged to run away because of his extreme sharpness. The other will be mentioned again. In these days-shortly before the abolition of the old system-post-mortem examinations were rare, except in striking cases. In Boston the traditional coroner system was in full force with an overweening share of its abuses, which, principally, arose from competition among so many coroners, and their struggles to manufacture cases and occasions for work. The jury element was always imperfect, always unsatisfactory. Half a dozen men would be picked up on the street just as it happened. Court House Square swarmed with candidates and, moreover, as is usual in such cases, the scamps were the most favored, while decent men among the coroners rarely secured any cases. So that in the last fifteen years the larger portion of the coroner business was done by three or tour men who had the ear of the police. And while the others did but little, there nevertheless was a great deal of scrambling, and the whole system was a disgrace and a scandal. The temptations which were offered to protect or make criminals, to shield the guilty and involve the innocent, will suggest themselves. At intervals for the previous twelve years the matter was made a subject of comment by our Medical Journal, but in the fall of 1875 it began to be agitated in serious earnest. The appointment of self-styled Dr. Newton as coroner, and the management of the celebrated Clara Fisher case were especially influential in bringing about the change for which our medical men had been so long maturing. The appointment of a man so outrageously inefficient as was this Newton led a number of our most distinguished medical men to petition the Governor for his removal, and the Boston Medical and Surgical Journal came down upon him in such scorching terms that he sued the publishers for \$20,000, and was ingloriously defeated by his own inability to make out a case. His name stands in the Directory of Physicians and Surgeons of the United States. The statements therein made, though written by himself, were proven to be wholly untrue, but he backed down in such a hurry that the proofs were not exhibited to the court. Meanwhile, an able lawyer, Mr. Theodore H. Tyndale, read a paper before the American Social Science Association, showing that the coroner system, as then existing, was an anachronism, and a very dangerous one.

He showed that by existing laws a coroner, though appointed by the Governor and Council, could be removed only by an address of both Houses of the Legislature to the Governor; that if the six jurors who are summoned did not appear, the coroner could fill the number from the by-standers, and therefore, that he could manipulate them as he chose; that by the consent of the majority of this jury, he could make the inquest a secret one; that he could take charge of all the property upon or near the person of the deceased, and yet give bonds for only \$500; and that there was no law limiting the number of coroners. He then showed how a timid or corrupt coroner could shield a criminal and thus endanger public safety, and how, by malice or vindictiveness he could work much harm. The paper created a profound impression. Mr. Tyndale also asserted that two coroners were enough for Boston; that juries were mere figureheads, and claimed that the office of coroner should be divided into two, a medical and a legal. He likewise showed that in one year, inquests under the old system, cost the city \$10,769 74. The salaries of the two medical examiners, now acting for the whole of Suffolk county, amount to only \$6000. The Social Science Association took up the matter in earnest, but the first formal step was taken by the councilors of the Massachusetts Medical Society. At their October meeting in 1876, the matter was thoroughly discussed, and a committee was appointed to report on the subject at the February meeting in 1877. Thus all these influ-

ences, viz: the disgraceful appointment of Newton as coroner, Tyndale's paper, the activity of the Social Science Association and the action of the Massachusetts Medical Society moved together. The councilors appointed a committee of five and gave them full powers to cooperate with committees of other societies and persons engaged in obtaining a reform of the coroner laws. A bill was next presented to the State Legislature. The latter placed it in the hands of a special committee of whom one was Dr. Cogswell, who at the time was President of the Massachusetts Medical Society, and one of the Governor's council. He gave great assistance in working the bill through both Houses. The petition of some leading medical men for the removal of Newton was also on the carpet, and acted as a strong lever in favor of atolishing the whole rotten coroner system. Of course, much opposition was offered by friends of the coroners, and great endeavors were made to have more than two examiners. Especially active in this was a physician, who was also a coroner. He defended the old system and then applied for a position under the new one. The bill went through most triumphantly. The old system was rooted out, much to the satisfaction of all welldisposed persons, especially the physicians.

Coroner Newton, in the interim, had sent in his resignation, upon which the Governor and Council very properly declined to take action until the evidence of his gross unfitness was made public. This course was upheld by the Legislature, by a motion which in a decided manner established the doctrine, that in Massachusetts a public officer is not allowed to escape the results of an inquiry into his misconduct by a resignation. In June Newton was dishonorably dismissed by the Governor. On the first of July coroner system disappeared from Massachusetts, and the new plan went into operation. What this plan is I can best show by a synopsis of the law, which purged the most coroner-ridden community in the world of a burdensome disgrace. Section first did the business.

- 1. "The offices of coroner and special coroner are hereby abolished."
  - 2. The law then empowers the Governor and Council to

appoint two medical examiners for Suffolk county, and for each other county such number as may be designated by County Commissioners. These men to be "able and discreet men, learned in the science of medicine."

- 3. In the county of Suffolk, each medical examiner receives an annual salary of \$3000; in other counties \$4 for a view without an autopsy; for view and autopsy, \$30; for travel, 5 cents per mile to and from the place of view.
- 4. The medical examiners hold their offices for a period of seven years, but may be removed by the Governor and Council for cause shown.
- 5. Each medical examiner before entering office shall be sworn and give bonds for five thousand dollars, for faithful performance of his duties. If he fail to do this within thirty days after his appointment, another will be appointed in his place.
- 6. The County Commissioners are directed to divide their several counties into districts, suitable for one medical examiner, but each examiner may, if necessary, act in any part of his county.
- 7. Medical examiners are directed to make examination of such bodies only as are supposed to have died by violence.
- 8. The examiner, upon notification, must take charge of a body; if on view he considers further examination necessary, he must obtain authority in writing from District Attorney, Mayor or Selectmen of the district, and in presence of two or more persons, whose attendance may be compelled, make an autopsy and reduce to writing every fact which may show the condition of the body and manner or cause of death, together with names of witnesses. Before making the necropsy he must call attention of witnesses to position and appearance of body.
- 9. If he deem that death was caused by violence, he shall at once notify the legal authorities of the district, and file a copy of his record of the autopsy in a court or with a trialjustice, and another copy with the District Attorney; and likewise notify the clerk or registrar of marriages, births and deaths of whatever may serve to identify the dead person.

- 10. The court or justice must then hold an inquest which may be private; witnesses may be kept separate; the District Attorney or a deputy may attend and examine witnesses. The same holds good in case of death by railroad accident or other casualty.
- 11. The legal authorities may compel attendance of witnesses, who are allowed the same fees and are subject to same penalties as if served with a subpœna to attend a criminal prosecution.
- 12. After hearing the testimony, the presiding justice shall draw a report in which he shall find and certify, when and how the person came to his death, including all details; if the death has been caused by some other person, the name of such person must be mentioned in the report and the latter filed with the records of the Superior Court of the county in question.
- 13. If murder, manslaughter or assault have been committed, the justice may bind over all necessary witnesses to appear at proper time and place.
- 14. If the person charged with the offence be at large, the justice shall take steps to apprehend him by the usual legal process.
- 15. If the medical examiner report that death was not caused by violence, and the District Attorney be of contrary opinion, then the latter or the Attorney General may cause an inquest to be holden, at which he or a deputy shall be present and examine witnesses.
- 16. The medical examiner, if necessary, may call a chemist to his aid, the latter to be compensated by the county.
- 17. When the examiner views or examines the body of a stranger, he shall bury the latter at the expense of the county where it is found.
- 18. Medical examiner may allow reasonable compensation for services rendered in securing bodies found in the waters of the commonwealth, but nothing shall be paid for the search for a body.
- 19. Medical examiner is empowered to take charge of property found on or near a body, and shall deliver the same to proper custodians, or in their absence, after sixty days, to a public administrator.

20. Any medical examiner who shall fraudulently refuse or neglect to deliver such property within three days after demand, shall be punished by imprisonment and fine.

21. Medical examiner is directed to return account of all expenses of each view or autopsy, including his fees, to County Commissioners of the county where examination is made, etc.; 22–25 need not be mentioned.

This, then, is a rough synopsis of the law shorn of technicalities and repetition. It clearly shows the cooperation of the law with medicine in deciding upon the questions connected with a death by violence. Under the old system the coroner and his ignorant jury represented both law and medicine. Under the new the medical examiner's share of the case terminates with his report. He may become a witness, but he has nothing further to investigate or decide. This is the business of the courts, and the medical examiner is not expected to take the responsibility of deciding the legal merits of the case. This is the business of the judge, and his alone. Thus the examination is made by the examiner—the inquest by the court. The duties of each are distinct, and by this arrangement all who are concerned are sure of even-handed justice. The new law works successfully, and its results are exact and valid. Its influence upon the general public is good beyond question.

Medical examiners having been appointed as directed by the law, the next step was a meeting of all the examiners and the formation of our invaluable Medico-Legal Society. It is composed of regular and associate members. The former are confined to members of the Massachusetts Medical Society who have been qualified as medical examiners; the latter are both physicians and lawyers who may be chosen from time to time under the by-laws. The objects of the Society are "to elevate the official character of the medical examiner and assist him in the discharge of his duties; to collect and utilize such facts as have a medico-legal value, and excite a general interest in the subject of forensic medicine and promote its successful cultivation." The first volume of the transactions of the Society has been published. It contains papers which were read before the Massachusetts Medical Society last year, and which have been published in the Boston Medical and Surgical Journal. They

are the first medico-legal papers which have emanated from any society in this State, and indicate the intellectual ability and earnestness of the members who wrote them. Thus, then, the new system has become an institution. It is working perfectly. The medical examiners are not only able, active, conscientions men, but men of the very best medical grade, and, therefore, the State is relieved of all the dangers of the archaic coroner system. If the Massachusetts plan were imitated in other States and national meetings of medical examiners were finally holden, the good which would result would be incalculable. At any rate, Prof. Chaillé would never again have reason to write a paper of such scathing eloquence as that read by him at the International Medical Congress in Philadelphia in 1876.

Boston, April 18, 1879.

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# TRANSLATIONS.

A CASE OF HYDROPHOBIA, TREATED AND CURED BY MEANS OF THE INHALATION OF OXYGEN.

Translated from "La Lancette. Francaise Gazette des Hopitaux," by C. S. MERCIER, M. D.

Two Russian physicians, namely, Drs. Schmidt and Lebedew, had in their practice recently a young girl, aged 12 years, who had been bitten by a mad dog, on the hand. The wound penetrated deeply enough to wound the skin and subcutaneous cellular tissue; immediately cauterization with the nitrate of silver was resorted to, and at the end of eight days the wound had healed. Three days previous to the accident, the young girl had suffered from an attack of diphtheria, followed by a condition of aphonia.

Seventeen days after the accident, the first symptoms of hydrophobia manifested themselves. Drs. Schmidt and Lebedew, prescribed inhalations of oxygen (3 cubic feet); this soon met with success, for at the end of two hours and a half, the patient was in a condition of perfect quietude.

The following day, the symptoms of hydrophobia repeated themselves; the inhalations of oxygen were repeated, and kept up for forty-five minutes, at the end of which time, all symptoms of hydrophobia had disappeared, with the exception of a slight dyspucea, which was controlled and overcome by the continual use for three weeks of the monobromide of camphor.

One month later, a condition of atrophy was perceived in the lower extremities, due to innervation, but this condition did not last for any length of time, and at the end of a month the young girl had recovered her former good health, with the exception of an aphonic condition, which was due to the attack of diphtheria.

# RENAL HÆMORRHAGE IN A CHILD WHO DIED FROM ECLAMPSIA.

Translated from "La Lancette, Française Gazette des Hospitaux," by C. S. MERCIER, M. D.

Mr. Cottin reported to the Anatomical Society, the case of a child aged three years and a half, treated by Dr. Siredey.

The convulsions were very violent and lasted almost continuously for five days. At the autopsy, hæmorrhage was discovered in the right kidney, occupying the lower extremity, and presenting itself under the form of a well defined apoplectic clot. This apoplectic clot was about the size of a large nut, occupying both the cortical and medullary portion, especially the former. In the centre a good sized vessel is observed, whose transparency is completely obliterated by fibrinous clot.

The presence of this vessel plugged by a thrombus, exactly in the center of the apoplectic clot, clearly indicates the origin and mechanism of the hæmorrhage. No other abnormality were observed in this kidney, the left kidney was perfectly normal.

# CURRENT MEDICAL LITERATURE.

# DAMIANA AS A NERVE TONIC.

My views on damiana as a sexual tonic are known to a very large number of the members of the medical profession. Further experience has strengthened the high appreciation I have expressed of its value in sexual debility, and given me, I think, some new ideas as to its physiological action and position as a

remedial agent. It is pre-eminently a nerve tonic, impressing the brain and nerve centres very much in the same manner that strychnia does. While, however, void of poisonous properties, it excites nerve cell nutrition, and enables the nerve

cell to assimilate its proper pabulum from the blood.

For the medulla oblongata and the medulla spinalis, it has an especial affinity. The motor nerves seem more impressed by its influence than are those of sensation. Hence I inferred that it would prove valuable in paralysis. Opportunities offering, I tested the accuracy of this inference in two cases—one hemiplegic, the other paraplegic. In both, damiana proved of unquestionable efficacy; the advantage was as unequivocal as I ever witnessed from the use of strychnia and ergot.

If my theory of its modus operandi—that it acted as an invigorator of the primordial nerve cell—be correct, it is easy to understand its true place in the treatment of certain forms of paralysis, as well as other nerve lesions in which deficient cell nutrition plays an important part. Damiana, by its direct action as a nerve tonic, by removing the morbid condition or stimulating the cells in inactive conditions, supplies a great

want in therapeutics.

If impotency has accrued in the male from inability to secure the necessary erection to convey the seminal fluid into the female, and to produce in her the very important yet not absolutely essential orgasm for impregnation, this remedy, in the absence of organic or structural change, will almost invariably overcome the difficulty. It accomplishes all, and even more effectually, the results attained by combinations of iron, strychnia, ergot and cantharides.

In several cases of nervous exhaustion, I have found the oganismal hypophosphites to give rather negative results, on account of the nerve cell being unable to imbibe its proper pabulum. In such cases I have used damiana alone with evident benefit; but the two agents together are almost magical

in their effects.

I have recently used these two agents in combination with extract of malt, and the result has exceeded my fondest expectations in several cases of mal-nutrition and general cachexia. I have also noticed that the capacity of both physical and intellectual labor is increased by the use of this combination.

Recently I have used damiana in a case of obstinate constipation, and found the trouble entirely removed; and this after having used a multitude of remedies. Whether the result in this case was a mere coincidence, or will again occur, I shall determine by future trials. I believe damiana can be advantageously used in all cases in which strychnia is now employed.

The preparation I have used is the fluid extract, either prepared by myself by cold repercolation, or by Dr. F. O. St. Clair. I abstain from heat in making it, as high temperature is as fatal to damiana as it is to wild cherry. May not the rise of heat in the manufacture explain the reason why so much of

the fluid extracts found in the market is utterly worthless, and has brought so much reproach, to be shared by the properly

prepared and valuable article?

Damiana, like ergot, isolated phosphorous compounds, podophyllin and other valuable agents, has had its good name traduced, and at it has been hurled the usual remedy of the weak, ridicule; but truth, as it always will, has triumphed, and this agent is, no doubt, destined to an officinal position in our pharmacopæia.—C. G. Polk, in Virginia Medical Monthly. Atlantia Medical and Surgical Journal, Feb., 1879.

# COUGH MIXTURE.

J. Milner Fothergill says hydrobromic acid, with spirit of chloroform and syrup of squill—and if the case be that of a very agreeable lady, and a favorite patient, a few drops of spirit of nutmeg be added—constitutes an excellent and palatable cough medicine.—Western Lancet.

# CHOLERA INFANTUM.

During the summer of 1873, I was called to prescribe for a child two years old, supposed by the physician in attendance to be dying, the disease being diagnosed as cholera infantum. My prescription was one ripe strawberry every hour till better. The child speedily recovered. Three months after, I was asked to prescribe for another child aged eleven months. The disease this time was really cholera infantum. One half strawbery every hour proved a successful treatment. This child had also been given up to die.—Boston Journal of Chemistry.

### GONORRHŒA.

Bauer's method of treating gonorrhœa—based upon the theory that it is purely a local disease, the protecting layer of epithelium being thrown off, and the epithelial cells converted into pus cells and discharged, leaving the mucus membrane exposed—is simply the use of a bland injection, which is followed by immediate relief to the pain, and usually results in a cure in about six days as follows:

To be injected warm every three hours and retained for a few minutes.—Western Lancet.

# LUMBAGO.

The treatment of the acute form of lumbago is very simple and very effective. Perhaps the best treatment at first is the application of scarifying cups to the muscle, or muscles affected, to be followed immediately by narcotic fomentations in the shape of a bag of hops soaked in hot water, hot vinegar, or alcohol and applied directly over the scarified parts. There are various stimulating and anodyne liniments which are really excellent in their way—such as turpentine, ammonia, camphor, etc. If opiates are to be employed they should be administered early in the course of the attack. The best form in which to administer opium is in the shape of Dover's powder. This may be given in ten grain doses. It is usually very efficient in affording relief to the pain and at the same time is very likely to produce copious diaphoresis. Where a rapid effect is desired the opium must be given hypodermically in

the shape of morphia.

In most of the cases of lumbago which are encountered in private practice the patient will be found to object seriously to the use of scarifying cups unless all other remedies are found to be in vain. In fact, you will most of you find in time that the use of this most excellent remedy must be limited to hospital and dispensary cases. Where scarifying cups cannot be employed the best treatment is that by morphia hypodermically, and Dover's powder by the mouth. (In the University Hospital the great pain accompanying lumbago is at once and very often permanently stopped by the hypodermic injection into the affected muscle of a solution containing one-eightieth of a grain of atropia and one-eighth of a grain of morphia, Great care being always had in the administration of morphia and atropia to nursing women, as belladonna is the most powerful antigalactagogue known, and as too large doses of morphia not infrequently affect the child through its mother's milk.—REP.)

Another most valuable drug in the treatment of lumbago is the iodide of potassium which would seem to be clinically proven to have a peculiarly beneficial influence over rheumatism of the lumbar region—more influence over this form of rheumatism in fact than over any other. Dr. Graves, of Dublin, is the first one reported to have made use of iodide of potassium in lumbago and he tried its effects upon his own person. He found that in doses of from five to ten grains given every three or four hours, its effects were truly wonderful.

This clinical fact—I refer to the peculiar influence of the iodide of potassium upon rheumatism of the lumbar muscles—is very difficult of explanation, but it is undoubtedly true. The iodide has been tried in the treatment of muscular rheumatism of other parts of the body and its effects in such cases have been found to be not by any means so immediately

successful.

In the chronic form of lumbago the condition is one of great obstinacy and is very difficult to treat. Such cases are very apt to persist in disappointing your hopes of cure. The most useful class of remedies here are of course the various forms of counter-irritants, such as blisters, sinapisms, the

actual cautery, etc., etc. Thoroughly and conscientiously applied local friction and massage may do good in some in-

stances where counter-irritants have signally failed.

Of all remedies, however, for chronic lumbago, I am accustomed to rely mostly upon the influence of tepid water upon the affected parts. The action of water, though slow, is a very permanent one. The water may be applied either in the shape of wet compresses kept in constant contact with the part, or you may use a douche and allow a stream of water to fall steadily upon the rheumatic muscles for some time from a height of from eight to ten feet. This use of water does great good in all forms of muscular rheumatism no matter where located. After the treatment by douche, or by wet compresses, the parts should be briskly rubbed with a coarse cloth or a skin brush, and then covered with cotton, or wool. or a piece of India-rubber cloth.

I have occasionally derived very advantageous and rapid results from the use of a metallic brush, rubbing the affected part briskly with it. This rubbing acts of course as an electric stimulus, and always gives immediate, if not permanent relief, though my experience has been that the use of the electric

brush afforded permanent as well as immediate relief.

Very often I advise tying a cloth over the lumbar muscles and ironing them thoroughly, two or three times every day, and then following up the ironing with the application of some stimulating liniment.—Hospital Gazette and Archives of Clinical Surgery.

TWO CASES OF POPLITEAL ANEURISM TREATED BY ESMARCH'S BANDAGE, PRESENTED TO THE CLINICAL SOCIETY OF LONDON BY MR. J. HUTCHINSON, AND DISCUSSED BY MESSRS. THOMAS SMITH, M. BAKER, MAUNDER, BARWELL, PAGE, BRYANT, MAHOMED, GOULD, NORTON AND HEATH.

The subject of the first case was a robust gentleman, aged 26 years, who never had syphilis. The tumor filled the right popliteal space and pulsated strongly. There had been pain for three months, but the pulsation had been recognized only a month. He had been placed under Mr. Hutchinson's care by Mr. Drew. He was admitted into the London Hospital, and after three days' rest in bed, ether was given, and Esmarch's bandage was applied to the entire limb. It was put on tight below the knee, very lightly over the tumor, and tightly again on the thigh. The elastic strap was applied as tightly as possible in the upper third, and after a little time the bandage was removed. The tumor was left full of blood, which was completely stagnated. Ether was kept up for an hour, and at the end of that time, the strap was removed and a horseshoe tourniquet substituted. No pulsation ever returned in the tumor, but as a matter of precaution, the tourniquet was retained for

a few hours. The subsequent recovery was rapid and complete. The second case was less speedily successful. Its subject was a gunnery instructor from Shoeburyness, who had been treated by pressure for an aneurism in the calf two years previously. On that occasion success had been obtained by thirteen days' compression. The aneurism on the second occasion filled the popliteal space and was as large as a large orange. It pulsated strongly. Esmarch's bandage under ether was used for one hour in exactly the same way as in the previous case, but with no benefit. The tumor beat as before. days later, another trial was made of the same plan, but on this occasion arrangements had been made, by relays of students, to keep up digital pressure after removal of the constricting strap. The man was kept under ether for two hours. At the end of that time, the strap was removed, and during the change of hands it became evident that pulsation was still present, but it was more easily controlled than before. Manual compression was kept up for about seven hours, at the end of which time pulsation had quite ceased. The tumor remained solid, and rapidly diminished in size, and the man left the hospital a few weeks later quite well. It was thought, that, in this case, although Esmarch's bandage did not produce consolidation, yet, it conduced to the cure, and it was certain on neither occasion, did it do any harm. Mr. Hutchinson stated that he had brought forward these cases, in neither of which was there anything original in the treatment, in order to elicit from other surgeons statements of their experience and opinions in reference to this novel and important method. He wished to acknowledge his obligation to his colleague. Mr. Warren Tay, and his brother surgeons, Mr. Price and Mr. Bennet, for their assistance in carrying out the details.

Mr. Thomas Smith, by the use of Esmarch's bandage, applied as he had seen Mr. Croft apply it at St. Thomas's Hospital, had cured two cases, and had failed with two. He had lately had to do with one so treated. In this case, no chloroform was given, and the bandage was applied tightly above and below the tumor, and left in place. He considered this better than constricting the limb by the cord, a proceeding, which, on the continent had been followed by permanent paralysis from injury to nerves. The pressure was more diffused by the bandage. In the last case, which occurred to a member of the medical profession, the bandage was alternated with pressure by a tourniquet over the artery, and the treatment lasted from 9 A. M. to 6 P. M., at which time great pain was felt in the swelling, and coagulation probably took place. Pressure was kept on for an hour and a half after this, and the

result was entirely successful.

Mr. Morant Baker had had an unfavorable case in a man of 40 or 50 years of age, where some blood had escaped from the aneurism, which he had treated successfully. There had been a preliminary imperfect application, but at the final attempt.

the bandage having been kept on for three-quarters of an hour, followed by half an hour's compression with the finger, it was reapplied for twenty minutes and compression again kept up for nearly two hours. No anæsthetic was employed, but no pain was complained of, and at the end of the time the aneurism was consolidated.

Mr. Maunder thought that there was no single certainly successful method of dealing with these cases. He had tried Dr. Reid's plan twice, both times unsuccessfully. One was cured by digital compression, and the other, by ligature. In his opinion, the objection to this bundage was that it was painful,

and required an anæsthetic with its attendant risk.

Mr. Barwel! agreed that no single method could be relied upon, but that the bandage was especially unsuitable in fusiform anearisms. He had tried it in a bad case, where there was extensive arterial disease, with fusiform aneurisms in the axilla, and brachial arteries; he made use of a sort of a bridge to keep the bandage off the tumor, and applied it lightly above the swelling, allowing a small current of blood to pass. After an hour and a half there was no result; it was subsequently reapplied twice, but he was obliged finally to ligature the artery, tying it gently in consequence of its diseased state. The man was well in ten days.

Mr. T. Smith objected that this method of applying the bandage, so as to allow the current of blood to continue, was essentially different from the plan under discussion.

Mr. Barwell added that on one occasion the flow was arrested

for about one hour.

Mr. Herbert Page had tried the bandage without success in a case apparently well suited for it, and in the hospital, at the same time, a case of Mr. Lane's was treated in the same manner, with a like result. The plug in the distal arteries, which had been thought to precede clotting in the aneurism, was, in his opinion, a later event, and followed its cure. He alluded to a case of Mr. Pemberton's, where this method of treatment

had been followed by gangrene.

Mr. Bryant related a case where the bandage had been used for an hour, under the influence of morphia, by which time there was much consolidation; in two or three days, the aneurism got worse, but the bandage under chloroform for three-quarters of an hour was followed by much improvement. It soon relapsed, and he then tied the artery; gangrene followed in a few days, which required amputation below the knee. In his opinion the bandage was responsible for the gangrene, and it constituted a serious, though perhaps not fatal objection to its use.

Dr. Mahomed considered the bandage was contra-indicated in cases of extensive arterial disease. He had found that when the bandage was placed on one arm the volume of the other was much increased, showing that a considerably increased distension of the vascular system resulted; where the cerebral

arteries were diseased this might be dangerous, but this objec-

tion did not apply to the ligature.

Mr. Gould alluded to two cases of aneurism treated in this way which he had examined; in both, the clot in the aneurism was loose; that in the artery above and below, firm and fibrous. He considered the coagulation in the aneurism was secondary. and he thought Mr. Bryant's case bore out this view; here, the clot being soft was broken up by the stream, the arteries not being occluded, which led to thrombosis and gangrene beyond; this difference in the clot, he attributed to the imperfect nutrition of the walls of the sac. He still thought those cases would be successful where the opening was large and the vessel healthy.

Mr. Norton had tried the bandage in one case without suc-There was extensive vascular disease, with double aortic murmur and three aneurisms. The treatment, though it failed, had none of the disastrous results Dr. Mahomed predicted, though the case was just such a one as those referred to by Dr. Mahomed. He considered the risk due to the distension of the vessels as the result of compression, small indeed, when compared with the risk of ligature where general vascular

disease existed.

Mr. Heath agreed with Mr. Barwell that a fusiform aneurism was not amenable to this treatment; and with Mr. Gould, in his theory of the action of this bandage. In Mr. Smith's case, however, the general state of the vessel was very unfavorable, yet a rapid cure resulted. It was quite possible in Mr. Bryant's case, the gangrene was the result of the ligature, and not of the bandage. In a patient of his, in whom the bandage had been twice applied, and in whom the artery had been ligatured, once in the usual way, and once with antiseptic precautions, the result was of interest. The patient was strongly in favor of the antiseptic plan, from which he had suffered much

Mr. Hutchinson, in reply to the various speakers, said that he had thought the plan of treatment under discussion a valuable addition to the means at our disposal. It seemed impossible to predicate as to the cases in which it was most likely to succeed, but it seemed to be a trial in nearly all. He could not admit that Mr. Bryant's case proved that any ill consequences were due to the bandage. It had simply not cured; the gangrene came only after the ligature, and should be attributed to it, and not to Esmarch. He believed that in different individuals very different degrees of aptitude for coagulation were displayed by the blood, hence, chiefly, the explanation why some cases were cured easily and others with difficulty. The tendency to coagulate might be helped by insisting on abstinence from fluids, as was done in both of his eases, and by giving drugs such as iodide of potassium, lead and digitalis. Whilst fully admitting the value of digital compression, he still thought a trial should first be given to the bandage. He

had had several very rapid cures by compression, but he did not recollect any case of aneurism of similar size in which the patient had suffered less than the first of these he had related. If ether was used, not chloroform, he believed no danger was encountered, and he felt sure that the anæsthetic made the treatment less painful. He would strongly recommend that in all cases in which the bandage is tried, arrangements to continue digital compression immediately afterwards shall be made, and that great care should be taken to prevent the blood from passing into the tumor on the release of the limb from the strap.—Medical Press—Hospital Gazette and Archives Clinical Surgery, January 16, 1879.

# THE TREATMENT OF DIPHTHERIA.

By LOUIS WEIGERT, M. D., of Amsterdam, N. Y.

Last spring, I advocated in the Gazette a certain treatment of diphtheria, which had proven itself very valuable in my experience. But inasmuch as it was merely symptomatic, i. e., empirical, and as furthermore many cases resisted all the means employed to deprive death of its victim, I determined to discard it and experiment with a drug which promised, theoreti-

cally, to be a specific.

To experiment, in private practice, in a disease so fatal, is perhaps objectionable, especially when it is taken into consideration that I had at my command remedies which had decreased the mortality to, at the most, 8 per cent., and would have been entirely unjustifiable had not the treatment referred to been a cruelty to the patients as well as nurses, and had not the epidemic steadily increased in fatality both in this country and in Europe.

But happily my results prove that it was not an experiment but rather the practical demonstration of a theoretical

hypothesis.

Scientific treatment necessitates the administration of means directed to the cause. Diphtheria is a blood-disease, dependent upon the presence of bacteria. Could not these germs be destroyed by saturating the system with some parasiticide? The most universally effective of this class of drugs is mercury.

Such was my reasoning, which the first trial would prove either correct or fallacious, hence I present the first case as

taken from my note book:

R. S., aet. 3 years, September 15th, 5, P. M. She complained last night of sore throat and headache, was restless and feverish. Temperature 103° in r. axilla, pulse, 140; tongue coated; diphtheritic odor strongly marked (this odor is present in every case of diphtheria, even when there is no exudation, and is therefore pathognomonic of the disease); both tonsils well covered by membrane. Ordered cold applications to the neck, powders: calomel, et pulv. Dover, aa gr. j every hour;

inhalation of the fumes of hydrargyr, oxid, nigr, gr. X every two hours.

September 16th, 8 o'clock, A. M., temperature 99°, pulse 112, exudation unchanged; ord. ol. ricini 3 ss., after evacuation powders and inhalation as before; discontinue remedies during night.

September 17th, 9 o'clock, A. M., patient slept well, temperature 98½°, pulse 100, odor less perceptible; membrane has lost its leathery appearance and now resembles mucus. Ordered same as yesterday.

September 18th, 9 o'clock, A. M., patient bright, temperature and pulse normal, no odor, membrane almost entirely disappeared; ordered powders every two hours, inhalation every four hours.

September 19th, 10 o'clock, A. M., slept well, appetite fair, temperature and pulse normal, one small speck of membrane on left tonsil; ordered one powder every four hours, inhalation three times a day.

September 20th, tongue clean, appetite good, throat clear, temperature and pulse normal; ordered one powder three times a day for two days.

September 22d, discharged patient.

A few more extracts from my records may not be inappropriate here.

December 5th, 6 o'clock, P. M., G. T., act. 19 years. He complained since morning of headache, sore throat, and pains in his back and limbs. Temperature in l. axilla 107°, pulse 160, tongue heavily coated, tonsils and soft palate covered with exudation, diphtheritic odor pervades the room. Ordered ol. ricini. 3 j. after evacuation; powders of calomel gr. j; pulv. Opii. gr. 4, one every hour; inhalation of hydrarg. oxid. nigr. gr. X every hour, inunction of hydrargyr. oleat. (10 per cent.) every hour.

December 6th, 11 o'clock, A. M., temperature 100°, pulse 95.

December 9th, discharged patient.

October 23d, 3 o'clock, P. M., I. W., aet. 2½ years, diphtheria. Temperature 103° in axilla. Ordered ol. ricini, after evacuation; calomel, etc; 9, P. M., he had vomited the oil, and as he had not had a passage from the bowels yet, they had not given any medicine. Temperature now 105°. Ordered lavement of water, soap, and castor oil, powders of cal., et pulv. Dover, aa gr. ss., inbalations of black oxide of mercury, gr. vj. every hour, and inunctions of hydrargyr. oleat.

October 24th, 7 o'clock, A. M., temperature 9810.

November 1st, discharged patient.

December 11th, 8 o'clock, P. M., C. K., aet. 4½ years. She has been hoarse since yesterday morning, was feverish and restless. Temperature 104° in axilla, pulse 150, countenance flushed and anxious, has marked dyspnæa, tongue coated, a few specks of membrane on tonsils, diphtheritic odor, larnyx and trachea sensitive to the touch; ordered a clyster of water

and ol. ricini; inhalation of black oxide of mercury gr. X every half hour; inhalation of steam as often as possible, cold applications to the neck, inunction of hydrargyr. oleat. (5 per cent.) every hour, powders of cal. et. pulv. Dover, aa gr. j. every hour.

December 12th, 8 o'clock, A. M., voice clearer, breathes with but little difficulty, temperature 99½°, pulse 100; ordered as

yesterday.

December 13th, 9 o'clock, A. M., voice and respiration natural, temperature 100°, pulse 115, throat clear, no odor, countenance bright.

December 16th, discharged patient.

Every patient treated as above, recovered within one week, i.e., was then discharged by me. The disease was controlled after—at the most—24 hours; the exudation never continued after the constitution had been saturated with mercury; in every case the temperature fell to the normal (98½—100°) after from twelve to twenty-four hours; (in some the temperature rose again to 100-144° from gastritis or salivation); in no case did any kidney or other complication or sequella arise.

In diphtheria there is always a high degree of pyrexia (103-107°); the membrane tends to spread; a pathoguomonic odor invariably exists. Mercury is no febrifuge. As shown by the above cited cases the temperature was reduced as much as 7° within 17 hours, the exudation ceased and the odor disappeared. The logical conclusion to be deducted therefrom is that mercury destroys the diphtheria bacteria, and that con-

sequently it is entitled to be designated a specific.

In conclusion I would call attention to a few essential points. It is necessary to attain the physiological effect of the drug as rapidly as possible. The patient should be kept under its influence for 48 hours after all signs of the disorder have disappeared. The oleate of mercury shall be employed especially when gastric irritability exists. The bowels are to be thoroughly evacuated daily. The skin is to be kept perfectly clean. Free ventilation of the sick room must be insisted upon. Stimulants are to be administered in case there is any symptom of depression.

I firmly believe and confidently assert that death from diphtheria need hereafter be but of rare occurrence, and therefore invite a severe but fair trial for this treatment.—Hospital

Gazette.

# ON THE PRONENESS OF CERTAIN FAMILIES TO CONTRACT DIPHTHERIA.

In a large city like this (where diphtheria is unfortunately too common), a surgical practitioner is frequently asked to see patients more or less asphyxiated by this disease, with a view to determining the question of operative interference. During a considerable experience of this sort in the last few years,

nothing has struck me more than the frequency with which I have heard, at such consultations, of a former attack of the same disease in the same family. In the absence of any notes on the subject, I shall illustrate what I mean by relating several instances of this kind which have lately come under my notice, and are, therefore, still fresh in my memory. 1. Dr. Archibald Sloan informs me that he was, two weeks ago, in attendance on two children affected with diphtheria, one of whom died. An elder sister suffered from the disease three years ago, the family not living at that time in the same house as at present. After she had been ill for some days, I saw her, with Dr. Sloan, on account of laryngeal obstruction, and performed tracheotomy. She was in no way affected by the present outbreak in the family. 2. I recently saw an infant, about a year old, in a country house, a few miles to the west of Glasgow, who died of diphtheria, with obstruction, shortly after my arrival. Her parents told me that they had lost another child some years before from the same disease, when living in Hamilton. 3. I was lately hurriedly called to visit a child, said to be dying from asphyxia, the result of diphtheria. Before I had entered the house, he had died. During a short conversation, I was told by the father that while resident in London, a few years ago, one or two of his other children had suffered from the disease. 4. A gentleman, now resident in this city, whose daughter had recently passed through a serious attack of this disease, informed me that, many years ago, a member of his family died from the same ailment, in Edinburgh. Tracheotomy was required, and was performed by an eminent surgeon of that city.

It will be observed that in each of the above cases (and I might easily increase their number) the second attack of the disease occurred after the family had made a change of residence. In one case, where I performed tracheotomy, the father informed me that he feared the sanitary condition of his house must be to blame, as the disease had appeared amongst them on a former occasion. At that time, however, the drains had been inspected and overhauled by competent workmen, and the chances are, therefore, that the house was really not at fault. I am disposed rather to believe that certain families are more prone to contract the disease than others; a fact recognized by physicians in reference to enteric and some other fevers. Hector C. Cameron, Glasgow.—British Medical

Journal, Feb. 22, 1879.

# A DESCRIPTION OF "THOUGHTS" HAVING SUICIDE FOR THEIR SUBJECT GIVEN BY AN EPILEPTIC INDIVIDUAL.

The following complaint made to me by a young lady suffering from epilepsy, whom I saw with Mr. Hoare of this town, is of interest, from its affording an interior view of what passes in the mind of many sufferers from the impulsive acts which

occur in epilepsy. The subject of the case was aged 18. She had her first epileptic fit two years ago, one year after the setting in of menstruation. Several severe fits and numerous

attacks of petit mal have occurred since.

I saw her on the morning after one of her attacks. She entered into the following details with manifest reluctance; but she said she thought she ought to tell me. Ever since her first epileptic fit, she has been subject to the sudden occurrence of very painful thoughts. They are very vivid, she said; and they are all of one kind. After a further struggle with herself, she said they always related to one thing—to the possibility of her cutting her throat. "Suppose I should cut my throat, comes into my mind. I do not feel inclined to do it, and I do not suppose I ever shall; but the thoughts terrify me none the less. They will come into my mind at any time. I cannot bear to pass a shop where they are sold." She reluctantly explained that "they" meant knives, and especially razors. "I dare not go into my father's room, because of the razors lying there" (they were removed in consequenci). "It is very odd that it should be always about this one thing. I never think of poison; it never enters my head, nor anything of the kind: only what I have mentioned." She has a dread of seeing blood. and believes she should faint if she looked at any. She does not like looking at raw meat, and dislikes passing a butcher's shop. (She pronounced the word "butcher" with evident unwillingness.)

Add to the foregoing details that she has always been of an irritable temper, and that of late she has become very impulsive, easily excited to passion, and at times even violent. Her sleep is unquiet and much disturbed by dreams. She is a very intelligent girl, of superior ability, and has cultivated her mind with success. James Russell, M. D., Physician to the Hospital, Birmingham.—British Medical Journal, Feb. 22, 79.

# TO RELIEVE THE PAIN OF BLUE-STONE APPLICATIONS.

It is said that the pain following the application of a crayon of sulphate of copper to the conjunctiva, may be entirely relieved by sprinkling calomel on the surface to which the crayon has been applied.—Ohio Medical Recorder.

# PRURITUS PUDENDI.

Dr. McCall Anderson:

B.	Camphoræ		
	Chloralisaa gr. xxx		
	Cerat. simp $\frac{2}{3}$ 3	0	

M.

- Ohio Medical Recorder.

# HOW TO AVOID LEAVING SCARS.

At a conversational meeting of the Philadelphia County Medical Society, November 13th, 1878, it was addressed by Dr. John H. Packard on "Some Surgical Wrinkles," The first point he discussed was a method of making superficial incisions by which scarring can be avoided. In operations upon exposed parts, such as the face and hand, it is very desirous that they shall be so done as to leave as litte scar as possible. The procedure recommended was first suggested by witnessing the effects of an accident, a lady having fallen while caraying a china dish, a piece of which made a long gaping incised wound in ber hand, the sharp knife-like edge having cut through the skin very obliquely. The wound healed readily, almost without a scar. A few weeks after the traces of the injury could scarcely be discovered. Thinking that this effect was in a great measure due to the direction of the incision through the skip, the speaker tried the experiment in entting down upon a tumor of the thigh, holding the knife so as to divide the skin obliquely. The wound united perfectly, and after it had healed he actually could not find the line of incision. Since that time he had tested the idea in numerous other cases with highly satisfactory results. In small superficial operations, such as the removal of small tumors from the face, it has a cosmetic advantage that at once recommends it. Cin. Lancet and Clinic .- Western Lancet, Feb. 1879.

# FATAL RECTAL EXPLORATION WITH THE HAND.

The Deutche Med. Wochen says: Daudridge and Comer examined the pelvis of a man by Simon's method, with a view to obtain accurate information concerning a psoas abscess. They assert positively no force was used, and that they did not go higher up than the bifurcation of the aorta. Immediately after the exploration, however, symptoms of peritonitis set in, and the patient died. At the autopsy a rupture of the peritoneum was discovered five inches above the anus. The mucous membrane was also torn above the sphincter. This is another case proving that Simon's method is not entirely harmless.—

The Hospital Gazette and Archives of Clinical Surgery.

# INFLAMMATION OF THE BLADDER.

The best remedies to administer internally when vesical irritation and inflammation exist, are gelseminum, belladona, sulphate of magnesia and pinus canadensis. If the pain be great, choose gelseminum; if the irritation will not admit the presence of a teaspoonful of urine in the bladder, give small doses of sulphate of magnesia; if too much urine be secreted (diabetes), administer pinus canadensis; if the kidneys secrete irregularly, belladona is indicated. It is not to be supposed that no other agents are "specific" in cystitis, for every ex-

perienced practitioner knows of others. However, enough have been mentioned to begin with,

Such agents as are known to be diuretic in their action should not be administered in cystitis; better give those agents that tend to restrain uninary secretion. Spices are especially to be avoided. A man or woman having cystitis is made worse by taking stimulants and aromatics. Gin is occasionally prescribed in urinary troubles, but oftener with bad

results than with good.

But the most valuable part of the treatment of cystitis is the use of faudanum and starch in the rectum. Let from 20 to 60 drops of tineture of opium be mixed with two ounces of starch mucilage, and thrown into the rectum with a syringe. This enema may be repeated two or three times a day. Those unacquainted with the quieting effects of this agency, in irritation of the bladder and cystitis, will be happily surprised when they carry the plan into operation. No internal medication through the stomach can equal, in curative effects, these sedatives and emollient enemas. In addition a bag of hot sand may be placed between the thighs, near the perineum, and a hot dinner-plate may be frequently placed upon the hypogastrium. By medicating the pelvic viscera and surroundings, the stomach may be kept for food and drink. Sedative medicines injure the appetite and digestion. Run as few remedies through the stomach as possible, unless they be peptics. Eclectic Medical Journal.—Southern Medical Record.

# THE METRIC SYSTEM.

In future The Medical Tribune will employ the metric system, in its formulas and calculations. The civilized world has generally adopted it, and we propose to continue with that class of the human race. It is high time to do away with the scruples, drachms and ounces, and the confusing ciphers (3 3) of apothecaries' weight. The unit of weight is the gram, equivalent to 15.433 grains. The half dime token, nickel, weighs a gram, and is a metre (39.369 inches) inches in diameter. Contributors reporting cases or formulas, will help us by conforming to the new scale.

# HOW TO MAKE TROUSSEAU'S CATAPLASM.

(Lyon Méd. January 26, 1879.) Dr. Dieulafoy, who has frequently applied this cataplasm with much success, gives the following directions for its preparation. Take, according to the size of the affected articulation, 3 or 4 lbs. of bread—4 lbs. are sufficient for the knee joint, 2 lbs. for the wrist. Cut it into pieces, removing carefully the hard portions of the crust, and soak the bread for about a quarter of an hour in water. It is then taken out, tied into a cloth, and squeezed to express a part of the water absorbed, so that the bread remains moist,

but not too wet. It is then put into a steam bath, and allowed to remain there for three hours, when it becomes like dry paste, which is softened by the addition of camphorated alcohol. This dough is then kneeded for about five minutes, till it is of the consistence of plum-pudding. This is the most delicate point in the making of the cataplasm, because if it is too soft it will give way, and spread out under the pressure of the dressing, and if it is too hard it is apt to crumble and break into small pieces, which might injure the skin. The degree of consistency of the cataplasm must, therefore, be very carefully supervised, because unless one is in the habit of making it, there is always a tendency to make it too soft, either because the bread has not been squeezed sufficiently before having been put into the steam bath, or because too large a quantity of camphorated alcohol has been poured upon it. The dough, having thus been prepared, it is spread upon a linen bandage in the shape of a rectangle, large enough to cover the whole of the joint. The poultice must be at least 1 of an inch thick at the edges, in order to prevent the thinner portions drying too quickly.

The surface of the cataplasm is then painted with the following liquid mixture: camphor, 7 grammes; extr. op., 5 grammes;

extr. bellad., 5 grammes; alcohol, q. s.

This being done, it is applied by being put over the affected joint, and covered by non-evaporant covering. The whole is then firmly fixed by means of a long flannel bandage, over which is placed a linen one of the same length. These bandages vary in length according to the size of the joint, and, consequently to the size of the poultice. The joint having been thus bandaged, it must remain perfectly immovable; the compression, although firm, must not cause the underlying parts to become ædematous; this may be prevented, however, by bandaging them also. In order to prevent the layers of the bandages from slipping, they must be sewn to each other. The cataplasm then remains in the same position for eight or ten days, after which time it is removed, and found to be as fresh and moist as if it had been just applied; it still smells of camphor, and does not present the least trace of mould. The skin which has long remained in contact with it is perfeetly healthy, unless the cataplasm should have been too thin at the edges, thereby either drying too soon, or giving way under the pressure of the bandage, and causing the skin to excoriate. This is Trousseau's cataplasm. At first sight it may appear too expensive for poorer patients, because the cost of the material amounts to from two and sixpence to five shillings, if the appliance is made in a hospital. If, however, we consider that, the expense having been once incurred, the cataplasm remains in its place for at least eight days, during which time no other medicine is given, we are soon convinced that it is even cheaper than most other appliances. The indications for the use of the cataplasm are so obvious that they

need not be repeated here. In every kind of chronic or subacute inflammations of the joints, when other means such as blisters and cauterisation, have proved unsuccessful, and even in the first instance, Trousseau's cataplasm will be found most useful and advantageous.—London Med. Record, March 15, 1879.

# ANTHROPOLOGICAL STUDY.

A recent examination of the body of a male chimpanzee in Philadelphia, by Prof. Leidy, of the University of Pennsylvania, is a matter of interest to anthropologists generally. It will be recollected that within the past year we had occasion to notice an examination of a similar specimen by Prof. E. C. Spitzka, of this city. The examination by Prof. Spitzka was the first one of this kind that was made of the brain of the chimpanzee, and established some important facts relating to the development of this organ. In his specimen the dimensions, the outline, and the proportions of the brain were similar to those of the newborn infant, as might be inferred from the size and the shape of the cranium. There were, however, several distinctive features which became apparent on careful examination. The cerebrum overlapped the cerebellum, consisted of the same number of lobes as in the human subject, was as rich in convolutions as the brain of the Bechuana, and possessed an island of Reil, with the addition of an operculum for the occipital lobe. The trapezium was absent, as in the human subject, and the olivary bodies were present, the latter being well developed and causing the usual prominence of the medulla.

The dissection made by Prof. Leidy bears out the conclusions reached by Prof. Spitzka, as far as the general conformation of

the brain is concerned.

We have learned incidentally that an examination, made a few weeks since by Dr. H. C. Chapman, of Philadelphia, of the brain of a female chimpanzee, presented some marked anatomical differences from those recognized in the male specimens. It is presumed, however, that these differences are more in degree than in kind, and possibly may be explained upon the supposition that the brain of the male specimen is better developed than that of the female. From all accounts it would appear that the brain examined by Prof, Leidy was an unusually large one, as it is reported that the cerebellum was quite, if not entirely covered by the cerebrum. But the marks of differences between the male and the female specimens are more noticeable when the conformation of the vocal organs is considered. The male, who is noted for his loud and piercing cry, possesses the anatomical peculiarity of a natural bagpipe, which communicates with the larynx, extends to the breasts, into the arm-pits, and is covered by powerful muscles. The other organs of the bodies examined presented no peculiarities worthy of notice.—Medical Record, March, 1879.

THE TREATMENT OF URETHRITIS BY THE APPLICATION OF COLD.

Dr. Jno. A. Wyeth, in *The Hospital Gazette and Archives of Clinical Surgery*, reports a number of cases of specific and non-specific urethritis cured by the action of cold two or three times a week. He says:

I do not believe that this, "The German Method," is practised as generally as it should be. After trying it in the following cases, I can heartily recommend it to the profession. The apparatus consist of a double catheter closed at the vesical At the other end there are two nozzles for attachment of the rubber tubes, one for the inlet and outlet currents. Each of these tubes is attached to a tin vessel holding about two quarts of water. The water is brought to between 320 and 40° F, by addition of ice (It is not necessary to make it uncomfortably cold for the patient.) Having introduced the catheter, the tubes are attached, one of the vessels being elevated and the other set on the floor, and the stop cocks are turned on. If necessary to prolong the séance the positions of the vessels can be reversed and the water will flow back into the empty vessel. The application may last from one to ten minutes, as the peculicr character of each case may require.-Hospital Gazette and Archives of Clinical Surgery, Feb. 27, 1877.

# RESTRAINT AND TREATMENT OF THE INSANE.

In the care and treatment of the insane, the question of mechanical restraint has for many years received the greatest attention from alienists. The reaction from the old horrors of the chain, the dungeon and the lash, led at first to a great deal of sentiment, which culminated finally in the denial by many leading authorities of the value or need of any mechanical restraint at all.

Such views coul not long be sustained, however, and they never had very wide prevalence in this country. At the present time, while the utility of restraint is generally acknowledged, very great efforts are being made every year to get along with the least possible amount. For it was substituted watchful care, regular work, drilling exercises, or whatever occupation may tend to teach the patient self-control. According to Dr. Shew, Superintendent of the Connecticut Hospital for the Insane, ninety per cent. of patients are now treated in American asylums without any mechanical restraint. This percentage has increased especially within the last ten years.

It is pleasant to be able to record the declining years of that hideous array of apparatus which used to act with such happy reciprocity in narrowing the liberty and comfort of the patient, while enlarging that of the attendant.—Medical Record, Feb. 1870.

15, 1879.

# BULLETIN OF THE PUBLIC HEALTH.

Issued from the Office of the Surgeon General U. S. Marine Hospital Service, under the National Quarantine Act of 1878. No. 37. WEEK ENDED MARCH 22, 1879.

	Total	Annual		DE.	DEATHS FROM-	-180		
CITIES.	Deaths.	1000 oil	Diph- theria.	Scarlet Fever	Enteric Fever	Fover Di cases. Phthisis.	Phthisis.	
New York.	623	30.6	14	65	14	112	020	Whooping cough caused 26 deaths.
Brooklyn.	202	19.16	(37 cases.)	(96 cases.)	ু	37	55	
St. Louis	114	12	০১ শূ	: 4	35 4	(Pneumonia.)	20	
Boston	147	12.	(14 cases.)	(13 cases.)		21	22 23	
Baltimore	147	25	4	9	<b>—</b>	88	98	Measles 2, whooping cough 3, cerebro spinal
Jincinnati	116	21.5	9	18	হয় :	08	10	lever 2, crysipelas 2.
District of Columbia.	77. 24	(S) (E)	- 4	ದ ಬ	اد د.	63	22 00	Pneumonia and infantile convulsions prevalent
Buffalo	: % :	127	9:	4.	1	;	9.	Cer. spinal fever 3, croup 4, erysipelas 2.
Cleveland	65	27.9	24 22	- cv	:00	9	15	
Providence	25	15.6	-	: : :	-	7	30 .	Public health better than usual at this season.
Richmond	5,52	16.45	:-	⇒ <del>-</del>	;	3	4	Whooping cough 1.
Portland, Me.	13	19		1	: :			
Savannah	17	31.5	:	1	;	ಌ	4	Whites 7 deaths, colored 10.
Total for week	2154	(Average.) 20.2	75	134	23	35.2	312	
San Francisco	83	14.4	20	1	-	11	10	Cerebro spinal fever 2, croup 4.
New Orleans	84	20.8	1	;	;	18	17	Diseasses of air passages prevalent.
Montreal (Week ended Mar. 15.)	11	To:	12	;	pred	1	1	Small pox 12.

No. 37. WEEK ENDED MARCH 22, 1879.

Bermuda.—In a population of 15,300 there was but one death from old age during the two weeks ended March 11th. Two cases of yellow fever in hospital.

Havana.—Week ended March 22d. Small pox caused 11 deaths, yellow fever 1. During the mouth of February the total deaths were 632, an annual rate of 42 per 1000 of the population. Diarrhœal diseases caused 70 deaths, small-pox 45, yellow fever 13, malarial fevers 16, enteric fever 10, diphtheria 7.

Great Britain.—Week ended March 8th. In the 23 large cities the average death rate was 29 per 1000. Rate in Oldham 43, Dublin 36, Manchester 33, Liverpool 30, London 29, Sheffield 29, Glasgow 21, Edinburgh 19, Plymouth 19. Small-pox caused 17 deaths in London, 11 in Dublin; scarlet fever was very prevalent and measles excessively fatal in several towns,

Paris.—Week ended March 6th, 1,060 deaths. Rate 27. Enteric fever caused 29 deaths.

German Empire.—Week ended March 1st. In 149 towns the average death rate was 28.1 per 1,000. Rate in Munich 34, Strasburg 34, Dresden 30, Breslau 28, Cologne 28, Hamburg 26, Berlin 25.7, Frankfort 23. The whole number of deaths were 4,093, of which measles caused 28, scarlet fever caused 62, diphtheria 161, whooping cough 63, enteric fever 61, phthisis 590, acute lung diseases 506.

Vienna.—Week ended March 1st. Deaths 438; rate 31. Small pox caused 6 deaths.

St. Petersburg.—Week ended Feb. 22d. Deaths 620; rate 48. Small pox caused 56 deaths, fevers 4. The imperial order directing the burning of the infected houses at Wetlyanka has been executed in part, and extraordinary powers have been conferred on the governor of the district, under which vigorous efforts are being made to improve its sanitary condition. The towns adjoining the infected district, as well as the cities of St. Petersburg and Moscow, are taking measures against the possible extension of the disease on the approach of warm weather by cleansing and disinfection of unsanitary quarters, issuing of cooked food to the poor, erection of temporary buildings for the reception of refugees from the infected districts, and furnaces for burning infected clothing.

# BULLETIN OF THE PUBLIC HEALTH.

Issued from the Office of the Surgeon General U. S. Marine Hospital Service under the National Quarantine Aut of 1878.

	Makel	Annual		DE	DEATHS FROM	-WO3		
CITIES.	Deaths.	rare per 1000 of populat'n.	Diph- theria.	Scarlet Fever.	Enteric Fever.	Pneumonia and br'nc't's	Phthisis.	
New York	557	26.6		54	10 0	98	93	Whooping cough caused 25 deaths.
Brooklyn	209	19.2	(30 cases ) 18	(70 cases.)	:-	41	25.0	Whooping cough 2, croup 4.
Chicago	148	16.7	-	: : 07	4 ೧೧ ೧	8 20 8	328	Cerebro spinal fever, 2, whooping cough 3.
Baltimore	149	21.2		4	००१	227	200	
Cincinnati	94	14.1	ಬ	00	-	15	п	Whooping cough 3, cerebro spinal fever 2, erysipelas 3.
Hudson County, N. J.	96	17.7	98	. c	::	57.00	10	Cerebro spinal fever 2, erysipelas 1.
District of Columbia	88	(w) 19.6	લ્ય	-		21	13	Cerebro spinal fever 1, remittent fever 3, ery-
Louisville	40		;=	;	: 0	7-1	123	Erysipelas 1.
Buffalo	34.7	12.4		က .	5 ; 0	110	90	Coloup 5, cerebro spinal fever 2.
Milwankee	47	255		: : (	2 :	क दर	စ္	Diarrhogal diseases 5. Erysipelas 1.
Providence	30	19.2	- 0	n ;	- ;	9 4	9 4	Croup 4. Cerebro spinal fever 1.
	15	20.	,	;	-	20	· co -	
		26.	4	1	:	:	7	
Savannah	91	(w) 18. (c) 34.	:	•	;	4	က	
Total for week	2244	(average.)	104	101	35	364	356	
New Orleans	105	36.	8.	1	1	13	25	
San Francisco.	64	10.9	က	:	1	4	12	

(10) white, (a) colored.

No. 38. WEEK ENDED MARCH 29, 1879.

Montreal.—Week ended March 22nd. Total deaths 83; annual rate (corrected by estimate of U. S. Consul General) 28.8. Small-pox caused 12 deaths, diphtheria 3, enteric fever 1, phthisis 9.

Havana.—Week ended March 29th. Small-pox caused 19 deaths, yellow fever 1.

Great Britain.—Week ended March 15th. In 23 large cities with an aggregate population of 8,503,000 the average death rate was 28 per 1,000. Rate in Dublin 38, Nottingham 37, Leicester 34, Leeds 34, Manchester 33, London 29, Liverpool 29, Sheffeld 29, Birmingham 27, Glasgow 25, Brighton 20, Edinburgh 19. Whooping cough was epidemic and excessively fatal in several towns. The deaths from acute lung diseases steadily increased during the six weeks preceding March 15, and during the last two weeks of the period caused 1,362 deaths in London, nearly one-third of the whole mortality. Small-pox caused 17 deaths in London, 18 in Dublin, during the week.

Paris.—Week ended March 13th. Total deaths 1093; annual rate 28.6. Small-pox caused 18 deaths, diphtheria 22, enteric fever 40.

German Empire.—Week ended March 8th. In 149 cities with a population of 7,539,574, there were 1296 deaths, an average rate of 26.6 per 1000. Rate at Berlin 25.7, Dresden 24.4, Munich 28, Hamburg 23.6, Cologne 23.3, Frankfort 25.

St. Petersburg.—Week ended March 1st. Total deaths 636; annual rate 49.4. Small-pox caused 40 deaths, typhus and enteric fevers 35.

The U.S. Consul-General reports that an easier feeling prevails in regard to the possible revival of the plague, on account of the vigorous and efficient policy of the Russian Government, which has adopted all possible measures for the extermination of the disease.

The rinderpest is prevalent in Bohemia, Roumania, in several provinces of Russia, and in European Turkey.

Two deaths from trichina disease recently occurred in Brooklyn, N. Y., the diagnosis being verified by an autopsy and by microscopic examination of the ham partaken of by the patients.

# RULLETIN OF THE PUBLIC HEALTH.

Isoned from the Office of the Surgeon General U.S. Marine Rospital under the National Quarantine Act of 1878. No. 39. WEEK ENDED APRIL 5, 1879.

CITIES.	Total		ia	Scarlat	other Phe	Pneumonia	The state of the s	
-	Deaths.	popu'tion.	and Croup.	Fever.	.	and brincits. Futnishe	Futurisis.	
0 0	534	25.4	33	Nos rec'd.*)	1	108	88	Whooping cough 12, diarrheal disease 13.
0 0	988	16.5	11	10	1	33	20	Whooping cough 5, erysipelas 3.
	066	91.1	10	(62 cases.)	c)	48	36	Whooping cough 3.
0 0	97	10.1	1	:	4	50	14	Erysipelas 2, cerebro spinal fever 7.
:	138	15.6	12	27	11	14	200	Erysipelas 6.
: :	139	19.8	7	20 00	अ ८४	17	28	Liakindai dibeane o.
Hudson County, N. Y.	94	20.	4	11	9~4	2	10	
Cleveland	51	16.3	9	1		9	7	1
District of Columbia	72	23.3	က	લ્ય	०१	12	12	Rate \ volume 18.1.
Louisville	41	13.3	e (	:	1	दर	10	•
	35 30	11.6	20 00	in:	٠ rc	o	- Z-	Cerebro spinal fever 3.
	22.	32.	n	) ;	-	21	14	\\ ''40 per cent. of deaths caused by pulmonary disease."
:	38	17.2	9	:	-	1	10	
:	23	14.	લ્ય	03.0	-	40	9	"Health of city good for the season."
0 0 0	77	.01	:	25	1	0	0	
	90	29.2	:	-	લ	က	ಣ	Rate   colored 37.8.   city very healthy."
Total for week	2036	(average.)	107	. 99*	49	332	332	
New Orleans	93	23.	:	:	70	7	18	
(Week ended March 30th.) Fraucisco (Week ended March 26th.)	78	13.3	က	=	1	9	12	

# No. 39. WEEK ENDED APRIL 5, 1879.

Montreal,—Week ended March 29th. Total deaths 56: annual ratio 19.4. Five deaths from small-pox. Mortality greatly lessened.

Havana.—Week ended April 5th. Small-pox caused 26 deaths, yellow fever 4.

Rio de Janeiro.—For the five weeks ended March 1st the total deaths averaged 215 per week, an annual ratio of 37. During the five weeks small-pox caused 31 deaths, "pernicious" fever 48, yellow fever 168 deaths. The latter disease has steadily increased during the period, and official information has been received that the statement of deaths published is probably far short of the actual number.

Pernambuco.—In the six weeks ended March 2d small-pox caused 144 deaths, yellow fever 18 deaths.

Bahia.—During February small-pox caused 14 deaths; city otherwise healthy.

Great Britain.—Week ended March 22d. The average death rate in 23 large towns was 28 per 1000. Rate in Dublin 34, Sheffield 32, Manchester 31, London 30, Liverpool 28, Glasgow 25, Brighton 23, Edinburgh 16. Whooping cough and measles were excessively fatal in several towns, and the deaths from acute lung diseases were still on the increase in London, causing 705 of the 2085 deaths reported for the week. Small-pox caused 16 deaths in London and 14 in Dublin.

Paris.—Week ended March 20th. Deaths 1108; annual rate 29. Small pox caused 15 deaths, enteric fever 29, diphtheria 27.

German Empire.—Week ended March 15th. In 149 towns the average death rate was 27.2, at Berlin 24, Hamburg 27, Dresden 26.5, Cologne 25, Frankfort 24.3, Munich 32, Strasburg 38.

The rinderpest is extending in Bohemia.

Small-pox caused 58 deaths at St. Petersburg, 15 at Vienna, 13 at Buda Pesth, 3 at Geneva.

At the last advices from Bombay, Calcutta and Madras, fevers were very prevalent, and small-pox caused numerous deaths in each city.

The Surgeon General of the U.S. Navy has furnished the following facts in regard to the recent outbreak of yellow fever

on the U.S. Str. "Plymouth." On November 7th last, four cases of yellow fever occurred on board the vessel while lying in the harbor of Santa Cruz; these were removed to hospital on shore, and the ship sailed for Norfolk. Three mild cases occurred during the voyage, and the "Plymouth" was ordered to Portsmouth, N. H., thence to Boston. At the latter port everything was removed from the ship, and all parts of the interior freely exposed to a temperature which frequently fell below zero, the exposure continuing for more than a month. During this time the water in the tanks, bilges, and in vessels placed in the store rooms, was frozen. One hundred pounds of sulphur was burned below decks, this fumigation continuing for two days, and the berth decks, holds and store rooms, were thoroughly whitewashed. On March 15th the ship sailed from Boston southward; on the 19th, during a severe gale, the hatches had to be battened down, and the berth deck became very close and damp. On the 23d two men showed decided symptoms of vellow fever, and on the recommendation of the surgeon, the vessel was headed northward. The sick men were isolated, and measures adopted for improving the hygienic condition of the vessel and crew. The surgeon reported that he believed the infection to be confined to the hull of the ship, especially to the unsound wood about the berth deck, all the cases but one having occurred within a limited area; and that while the "Plymouth" is in good sanitary condition for service in temperate climates, should she be sent to a tropical station, probably no precautionary measures whatever would avail to prevent an outbreak of yellow fever.

> J. B. HAMILTON, Surgeon-General U. S. M. H. S.

# EDITORIAL.

We regret the want of space to give our readers full account of the medical meetings recently held in Atlanta. So great a number, and such a variety of medical convocations have never hitherto, in this country at least, met in the same place and at the same time. First came the Convention of Medical Colleges; then the Medical College Association; the American Medical Association; the Association of Medical Journalists; the Sanitary Committee of the Mississippi Valley, and lastly the National Board of Health.

While we hold it to be an inviolable duty for medical editors to keep their readers correctly informed in respect to the issue of medical councils assembled for general professional welfare, undue censure should be guarded against. But it is a sacred duty of all sentinels upon the hills or towers of the medical profession, to admonish those within their reach, that irregularities and abuses in the so-called medical teaching of many of our schools, is more injurious to the advancement of medical science, or to the practical art of healing, for that matter, than all the erroneous-isms which ever mislead searchers for medical truths. Neither does there appear to us any way of stopping this evil except by some great movement on the part of the laity. If a convention of colleges is called, lo there come delegates from every one of those schools, who, while professedly seeking reform, are evi dently trying to find "how not to do it," and cry themselves hoarse in praise of reform, but if asked for powers to bind their respective institutions, are found to possess not even a scintilla. Well! it is a great comfort to know that a day is near at hand when practitioners will warn students against all pinchbeck schools.

The Medical Association was at least an average success. The address of the President was most admirable and most admirably read. We trust that room may be afforded us to give our readers a synopsis in our next issue. Some of the papers offered at the Association were spoken of as possessing a high degree of merit. Dr. Sayre was elected President and the next meeting will be held in New York City on the first Tuesday of June, 1880.

The Sanitary Council of the Mississippi Valley is intended to be a permanent organization. It is composed of representatives from the various State and municipal boards of health in the respective States whose locations and health interests are such as to render co-operative action desirable. It is more convenient and available for present practical needs than the American Public Health Association, but will in all probability become its most efficient ally. It will tend to render uniform and general, all great measures undertaken in the Western country for the prevention and arrest of epidemic diseases. In

achieving this end the only course to pursue is to adopt those measures which conform to reasonable and sound sanitary precepts. Our readers can thus perceive how much good should result from this organization if its career be successful.

The National Board of Health may be said to be yet in a nascent state, as Congress is still legislating in regard to its powers and endowments. The responsibilities and work which will be devolved upon it are of formidable proportions, but they trust that by the vigorous co-operation they hope to secure, the expectations of the country will meet with a reasonable realization.

#### REVIEWS AND BOOK NOTICES.

Chemistry: General, Medical and Pharmaceutical, including the Chemistry of the U. S. Pharmacopæia. A Manual of the General Principles of the Science, and their Applications to Medicine and Pharmacy. By John Attfield, M.A. and Ph.D., Univ. Tübingen, etc. Eighth edition, revised by the author. 12 mo., pp. 697. Philadelphia; Henry C. Lea, 1879.

This work is too well known to require extended notice. We have previously regarded it as the best work on Medical Chemistry in the English language, and the present improved edition increases its claims to the favor of both students and practitioners.

The Transactions of the American Medical Association. Instistituted 1847. Vol. xxix. 8 vo., pp. 900 and 245, Philadelphia, 1879.

This volume, though much larger than most of its fellows, compares very favorably with any of them in the merits of the numerous papers which it contains. The names of many of the authors are tamiliar in American medical literature, and are a guarantee of the excellence of their contributions.

Index to Original Communications in the Medical Journals of the United States and Canada for 1877. Classified by Subjects and Authors. Compiled by Wm. D. Chapin. 8 vo., pp. 96.

The undertaking of a work of this kind is praiseworthy, and its advantages are so obvious that we are now surprised that it was not thought of long ago. This index has been carefully prepared, and will prove a great convenience to those who have access to a number of medical journals and desire to study particular subjects. The book deserves encouragement, and the prospect of the early appearance of the volume for 1878 should induce a liberal patronage of the enterprise.

S. S. H.

Prescription Writing Designed for the Use of Medical Students who have never Studied Latin. By Frederick Henry Gerrish, M. D., Prof. Mat. Med. and Ther., Med. School of Maine, etc. 18 mo., pp. 51. Portland, Me.: Loring, Short & Harmon, 1878.

This little book consists of two parts, treating respectively of Rules for Writing Prescriptions. Most practitioners probably have an unpleasant recollection of their first attempts at framing and writing prescriptions, even those tolerably well versed in the Latin language; and those who meet this volume will regret that nothing of the kind was within their reach at the time when most needed. Medical teachers seem to be of Dogberry's opinion, that "reading and writing come by nature," particularly the writing of prescriptions, and young medical men have to pick it up in fragments, the best way they can find it. No beginner would fail to secure the book if he knew its convenience and where to obtain it, S.S.H.

Modern Surgical Therapeutics: A Compendium of Current Formulæ, Approved Dressings and Specific Methods for the Treatment of Surgical Diseases and Injuries. By George H. Napheys, A. M., M. D., etc. Sixth edition, revised to the most recent date. 8 vo., pp. 605. Philadelphia: D. G. Brinton. 1879.

This volume is a companion to the sixth edition of the work entitled Modern Medical Therapeutics, by the same author, which was noticed in a recent number of this Journal. The plan of the present work is as nearly as possible the same, and is carried out with the same judgment and fidelity. It should

be understood that the book is intended for practitioners, not students in the ordinary acceptation of the term, though practitioners should never cease to study their profession; and also that surgical pathonogy and operative surgery do not enter into its scope.

The book is provided with an index of authorities referred to, one of remedies, and a third of diseases, and it is printed with clear type on good paper. Altogether it deserves the success evidenced by the sale of a large previous edition in one year.

S. S. H.

## BOOKS AND PAMPHLETS RECEIVED.

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Are Inebriates Automatous? By George M, Beard, M.D., of New York City.

The Dental Advertiser. A Quarterly Journal edited by Theo. G. Lewis, D.D.S.

Notes of Work by Students of Practical Chemistry in the Laboratory of the University of Virginia, No. VII. Communicated by J. W. Mallett, Professor of General and Applied Chemistry in the University of Virginia. Reprint from Chemical News.

The Therapeutic Society of New York. Reprint from the New York Medical Journal, December, 1878.

Chronic Inflammation of the Bladder and its Treatment. A Clinical Lecture. By T. G. Richardson, M.D., Professor of Surgery in the Medical Department of the University of Louisiana, New Orleans. Reprint from the Medical News and Library, Philadelphia.

Report of Investigations into the Pathogeny of Diphtheria. Conducted by Edward Curtis, M.D., and Thomas Satterthwaite, M.D. New York City.

The Young Scientist. A Practical Journal for Amateurs. New York City.

Address and Eulogy. Delivered by Brother Sal Marx at the Lodge of Sorrow, Independent Order of B'Nai B'Rith, of New Orleans, La., December, 1878.

The Second Annual Report of the Board of Trustees of the Western Pennsylvania Institute for the Instruction of the Deaf and Dumb for the year ending September 30, 1878.

Annual Report of the Board of Health of the State of Louisiana for the year 1878.

Special Report of the Homocopathic Yellow Fever Commission ordered by The American Institute of Homocopathy.

Address in State Medicine and Public Hygiene before the American Medical Association, June 6, 1878. By J. L. Cabell, M.A., M.D., LL.D., University of Virginia. Extracted from the Transactions of the American Medical Association.

Electricity in its Relations to Medicine and Surgery. Its Application in Neuralgia, Chorea, Hysteria, Spinal Irritation, Epilepsy, Exophthalmic Goitre, Torticollis, etc. By A. D. Rockwell, M.D. Reprint from Virginia Medical Monthly, Febuary, 1879.

A Case of Inflammatory Fungoid Neoplasm. By Louis A. Duhring, M.D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania, Dermatologist to the Philadelphia Hospital, Physician to the Dispensary for Skin Diseases, Philadelphia, etc. Reprint from the Archives of Dermatology, January, 1879.

Transactions of the Kentucky State Medical Society, April, 1878. Twenty-third Annual Session.

The Cause of Sudden Death of Puerperal Women. An Address in Obstetrics and Diseases of Women and Children, delivered before the American Medical Association, June 5, 1878. By Edward W. Jenks, M.D., Detroit, Michigan, Chairman of the Section on Obstetrics and Diseases of Women and Children, Professor of Medical and Surgical Diseases of Women and Obstetrics, Detroit Medical College; Gynœcologist to St. Mary's and St. Luke's Hospitals, Detroit, etc., etc. Extracted from the Transactions of the American Medical Association.

Maternal Impressions. Mothers' Marks. Exposé of a Popular Fallacy. By Roswell Park, A.M., M.D., Demonstrator of Anatomy, Chicago Medical College, etc., etc. Reprint from The Southern Clinic, February, 1879.

# METEOROLOGICAL REPORT FOR APRIL. 1879.

•		TEMPERATU	RE.	ter	lity.	98.
Day of Month.	Maximum.	Misimun.	Range.	Mean Barometer Daily.	Relative Humidity Daily.	Rain fall—Inches
1	82	62	20	29.82	79.	.51
	67	53	14	30.05	52.	.28
3	73	52	21	30.09	44.	.00
2 3 4	64	46	18	30.19	38.	.00
5	66	49	17	30.21	38. 43.	.00
6	72	48	24	30.13	57.	.00
6 7	.78	56	22	29.97	74.	.00
8	78	65	13	29.96	83.	.00
9	77	62	15	29.90	85.	.03
10	79	66	13	29.88	45.	.00
11	76	57	19	29 96	40.	.00
12	72	54	18	30.08	70.	.00
13	78	56	. 22	29.91	76.	.00
14	79	62	17	29.72	71.	1.23
15	78	63	15	29.63	79. 72.	.13
16	85	65	20	29.63	72.	2.82
1.7	69	61	8	29.93	55.	.00
18	69	51	15	30.20	51. 56.	.00
19	72	54	18	30.20	56.	.00
20	74	55	19	30.11	63.	.00
21	75	55	20	30.11	74.	.00
22	78	60	18	30.22	69.	.00
23	75	65	10	30.20	74.	.00
24	77	61	16	30.13	71.	.00
25	75	62	13	29.99	80.	1.57
26	70	63	7	29.91	85.	2.90
27	78	60	18	29.96	77.	.00
28	75	66	9	30.04	73.	.09
29	79	65	14	30.05	62.	.00
30	82	64	18	29,99	57.	.00
-						
Mean	75.1	58.7	16.4	30.006	65.	Total: 9.56

### MORTALITY IN NEW ORLEANS FROM APRIL 27, 1879 TO MAY, 1879, INCLUSIVE.

Weel	Endi	ing.	Yellow Fever.	Malarial Fever.	Consumption.	Small- pox.	Pneu- monia.	Total Mortality.
May	e	4	0	2	18	0	10	102
66		11	0	2	9	0	3	94
66		18	0	3	17	0	2	102
66		<b>25</b> .	0	3	13	0	2	84
					2			
Tota	als .	• • •	0	10	57	0	17	382

# Louisiana State Medical Society.

#### ANNUAL SESSION OF 1879.

ABSTRACT OF PROCEEDINGS.

April 9th.-Morning Session.

Vice-President Bemiss in the chair.

Reverend H. M. Smith, D. D., opened the meeting with prayer.

[Note—The names of 106 members are inscribed upon the roll of the Society.]

Communications were received from Doctors J. C. Egan of Caddo (President of the Society) and O. P. Langworthy of East Feliciana, asking to be excused from attendance.

The gentlemen, whose names follow, were elected members.

Ascension: Dr. A. C. Love.

East Baton Rouge: Dr. R. H. Day.

Iberville: Drs. J. P. R. Stone, S. D. Swing.

Lafayette: Dr. J. P. Francez.

Lafourche: Drs. Gazzo, Sr., and Gazzo, Jr.

Orleans: Drs. T. S. Dabney, A. DeRoaldes, F. W. Parham, W. D. Vauce, David Jamison, C. S. Mercier, B. A. Pope, H. L. Metcalff, Jno. M. Cullen, B. Stillé, T. P. McCutcheon, R. Sauvage, E. Dreifus, W. E. Schuppert, C. O. Langenbecker, John Johnson, Esq., Chemist.

Plaquemines: Drs. G. Farrar Patton, P. S. Carrington.

St. Mary: Drs. J. H. P. Wise, R. C. White.

St. Tammany: Dr. A. Givens.

Tensas: Drs. D. P. January, D. S. Newell, P. Chew.

The following named gentlemen were elected members by invitation:

Dr. Smith (Pass Christian, Miss.), Dr. Deloffre (U. S. A.), Dr. F. O. Fox (Ark.), Dr. Greensville Dowell (Galveston), Dr. Patrick, Dr. A. P. Hall (Mobile), Dr. Henry Stone (Ark.), Dr. Eustis (Mobile).

Vice-President G. A. B. Hays in the chair.

Dr. T. G. Richardson, Chairman Committee of Arrangements,

presented the report of the Committee, and invited the members to attend the exhibition of the Windhausen Refrigerating Machine, as well as the display of microesopical preparations due to the courtesy of Drs. A. W. Smyth, H. D. Schmidt, and G. Devron.

Dr. S. E. Chaillé, Chairman of the Committee on Constitution and By-Laws, read the project of a new Constitution and By-Laws.

At the suggestion of the chairman, the Constitution and By-Laws, as read, were adopted provisionally, as a whole. They are to be published for distribution, accompanied by the Constitution of the State Medical Society of Alabama, or of an abstract thereof (the addition of this last being made on account of its excellence, and for the purpose of instituting comparison), and are not to be acted upon finally, until the next annual meeting.

The thanks of the Society were tendered the Committee, for the elaborately prepared Constitution and By-Laws, adopted as above.

The report of the Publishing Committee, Dr. Wm. H. Watkins, Chairman, was read and adopted.

The following reports from Dr. S. S. Herrick, Corresponding Secretary, were read and adopted:

Report classifying medical practitioners in the State of Louisiana.

Report enumerating local medical societies in the State.

Report of Committee on Legislation and Legislative Enactments.

The report of the Recording Secretary was read and adopted.

The Treasurer's Report was read and adopted.

On motion, the meeting then adjourned.

April 9th.—Evening Session.

Dr. Bemiss in the chair.

Dr. Bemiss delivered an address explanatory of the objects and purposes of the National Board of Health.

The thanks of the Society were, on motion, tendered Dr. Bemiss.

On motion, the Society then adjourned.

April 10th,-Morning Session.

Dr. Bemiss in the chair.

A communication from Dr. S. H. Rushing of Evergreen, (La.) was read and referred to the Legislative Committee.

A telegram expressive of spmpathy and good feeling, addressed to this Society, was received from the State Medical Association of Alabama, now a session at Selma.

On motion, the Chairman was authorized to respond to this greeting, in fitting terms.

On motion of Dr. Chaillé, the Publishing Committee was authorized to publish a form or model of Constitution and By-Laws, for distribution, in order to facilitate the organization of Parochial Medical Societies.

Dr. Joseph Jones delivered a verbal report, illustrated by drawings and specimens, on the comparative pathology of yellow and malarial fevers.

Dr. W. G. Austin made a verbal report upon certain points in connection with yellow fever.

Dr. M. Schuppert read an elaborate report on the cure of oblique fractures of the femur, without shortening.

On motion of Dr. Gourrier, Dr. Schuppert's paper was referred to the Publishing Committee.

On motion the meeting then adjourned.

April 10th.—Evening Session.

Dr. Bemiss in the chair.

The annual orator, Dr. S. E. Chaillé, delivered an address on "State Medicine and Medical Organization."

On motion of Dr. T. G. Richardson, the thanks of the meeting were tendered Dr. Chaillé, whose address is to be published by the Society.

On motion, the meeting then adjourned.

April 11th.—Morning Session.

Dr. Bemiss in the chair.

On motion of Dr. M. Schuppert, 500 copies of Dr. Chaille's address were ordered to be printed for distribution.

The thanks of the Society were tendered Drs. Smythe, Schmidt and Devron, for their courtesy in connection with the display of microscopical preparations. A similar vote of thanks was also presented to the Directors of the Windhausen Re frigerating Machine Company.

Dr. Chaillé called the attention of the Society to the importance of endeavoring to obtain from the State Convention, soon to sit in this city, a constitutional enactment relative to State Medicine for incorporation in the new constitution to be adopted in this State. In this connection Dr. Chaillé read a report of the Committee on State Medicine (of which he is Chairman), of the Orleans Parish Medical Society.

Dr. C. J. Bickham, who served with Dr. Chaillé on the Committee of the Orleans Parish Medical Society mentioned above, heartily seconded the remarks made by that gentleman on the subject of State Medicine.

On motion of Dr. Chaillé, the Society adopted the report of the Committee of the Orleans Parish Medical Society on State Medicine, and the same was ordered to be published with Dr. Chaillé's address.

On motion of Dr. S. Logan, the whole matter was referred to the Committee, which is to be appointed on State Medicine, with the qualification however, that as practical and speedy action is necessary, an auxiliary Committee be, at once formed.

The election of officers being now in order, the rules were suspended, in order that the election might be made viva voce.

Drs. J. W. Dupree, of Baton Rouge, and Sam'l Logan of Orleans, were nominated for the office of President.

Dr. Logan declined the nomination in favor of Dr. Dupree, who was unanimously elected.

Vice-Presidents—One Vice-President for each of the six Congressional Districts of Louisiana.

The following gentlemen were unanimously elected Vice-Presidents.

1st	Congressional	District:	Dr.	Wilkinson, Sr.
2nd	66	66	66	J. P. Davidson.
3d	66	66	46	P. S. Postell.
4th	•6	66	66	A. A. Lyon.
5th	46	66	66	P. Chew.
7th	66	66	66	O. P. Langworthy.
Reco	ording Secretar	Σy,	66	Thos. Layton.
Cori	responding Sec	eretary,	66	S. S. Herrick.
Trea	surer and Libi	arian,	66	Geo. K. Pratt.

On motion of Dr. Richardson, the Rev'd H. M. Thompson, D.D., was made an honorary member of the Society, and then elected Orator for the next session.

On motion, it was decided, that the next meeting of the Society should take place in New Orleans, at 11 o'clock, A. M., on the last Wednesday in March, 1880.

The following gentlemen were appointed delegates to the American Medical Association:

Drs. B. A. Pope, A. DeRoaldes and S. L. Henry, all of Orleans, and Dr. R. C. White, of St. Mary.

Dr. L. F. Salomon read a report based upon 14 cases of leprosy in this State.

The thanks of the Society were tendered Dr. Salomon for his report, and Dr. Salomon was appointed a Committee to continue the study of leprosy in Louisiana.

The Secretary, in the absence of Dr. J. D. Hammond, read a report, forwarded by that gentleman, on malarial hæmaturia.

The President, Dr. J. W. Dupree, announced the following Committees:

Arrangements: Dr. W. H. Watkins, Chairman, Drs. F. Loeber, Geo. K. Pratt.

Necrology: Dr. Wilkinson, Sr., Chairman.

State Medicine: Dr. S. E. Chaillé, Chairman.

(This Committee comprises 4 sub-divisions and an auxiliary Committee.)

(1) Public Institutions for the Sick and Infirm:

Drs. J. W. Dupree, R. H. Day, O. P. Langworthy, G. K. Pratt, A. B. Miles.

(2) Medical Education: Dr. C. J. Bickham—Medical Educa-

tion and Colleges; Dr. Thos. Layton, Laws Regulating the Practice of Medicine in Louisiana.

- (3) Medical Jurisprudence: Dr. W. H. Watkins, On Coroners; Dr. L. G. Perkins, Dr. J. D. Hammond, Insanity.
- (4) Public Hygiene: Drs. S. S. Herrick, P. S. Carrington, Jos. Holt, J. H. P. Wise.
- (5) Auxiliary Committee: Drs. J. P. Davidson, T. G. Richardson, S. L. Henry, S. S. Herrick, Thos. Layton, Sam'l Logan, A. R. Gourrier, W. D. Vance, Orleans; C. W. Smith, St. Mary; P. S. Postell, A. B. Snell, Iberville; —— Wilkinson, Sr., G. A. B. Hays, Plaquemine; A. Givens, St. Tammany; Gazzo, Sr., Lafourche; A. A. Lyon, Caddo; S. O. Scruggs, Natchitoches; T. J. Vance, Bossier; J. L. Davis, Carroll; Wm. Sandell, Quachita; P. Chew, Tensas.

Scientific Essays: Drs. C. J. Bickham, Chairman, D. M. Clay, Caddo; G. A. B. Hays, Plaquemine; J. P. Davidson, A. B. Miles, Orleans,

Publication: Dr. S. M. Bemiss, Chairman. Judiciary: Dr. T. G. Richardson, Chairman. On motion, the Society then adjourned.

April 11th.—Evening Session.

Dr. J. W. Dupree in the chair.

On motion of Dr. T. G. Richardson, it was resolved that the Chair appoint a Committee of one, to confer with corresponding committees of medical societies of Texas, Arkansas, Mississippi and Alabama, with a view to the formation of a Southwestern Medical Association.

The Chair appointed Dr. Richardson on this Committee.

At the request of Dr. S. L. Henry, Dr. S. M. Bemiss stated that there exists a disposition on the part of the National Board of Health, which considers itself a co-operative body, to receive assistance from this as well as from other medical organizations.

On motion of Dr. Richardson, it was resolved that this Society heartily approves of the formation of the National Board of Health, and pledges itself to co-operate with the said Board.

Dr. G. A. B. Hays called attention to telegrams announcing the reappearance of yellow fever on board the U.S. Man-ofWar Plymouth, although the vessel had wintered in Portsmouth Harbor, and asked for information upon the subject. In reply, Dr. Bemiss stated that a commission has been appointed by the Secretary of the Navy for the purpose of investigating the facts in this case with the assistance of the National Board of Health, and that the results of the labors of this commission will be made public.

Dr. D. R. Fox read a report on the Topography and Medical History of the Parish of Plaquemine.

The thanks of the Society were voted Dr. Fox. and his paper was referred to the Committee on Publication.

Dr. Fox was appointed to continue his researches upon the same subject, and report anew, at the next meeting.

On motion of Dr. Chaillé, the Committee of Arrangements was instructed to endeavor to obtain from the various lines of steamboats and railways leading to New Orleans a reduction in the rates of passenger fare on the occasion of the next annual meeting of the Society.

The gentlemen whose names are given below volunteered to read reports, at the next annual meeting, on the following subjects:

Dr. T. G. Richardson, Hydrophobia in Louisiana.

Dr. A. DeRoaldes, Contribution to the Study of Medical Hydrology.

On motion of Dr. G. B. A. Hays, the thanks of the Society were tendered the President and members of the Committee of Arrangements for their labors to procure the success of this meeting.

On motion of Dr. S. L. Henry, the thanks of the Society were tendered the Press of New Orleans.

The newly elected President, Dr. J. W. Dupree, delivered an address of thanks for the honor conferred upon him, and dwelt upon the importance of the results to be achived by the Society.

On motion, the Society then adjourned, to meet again in New Orleans, at 11 o'clock, A. M., on the last Wednesday in March, 1880.

THOMAS LAYTON, M. D.,

Recording Secretary.

ROLL AND POST OFFICE ADDRESSES OF MEMBERS OF THE LOUISIANA STATE MEDICAL SOCIETY, BROUGHT DOWN TO THE CLOSE OF THE SESSION OF 1879.

#### A.

- 1. Allen, Thos. J., Shreveport, Caddo Parish.
- 2. Ashton, W. W. " " "
- 3. Austin, W. G., cor. Jackson and Magazine, sts., N. O.

#### B.

- 4. Beard, J. C., cor. St. Charles and Thalia, sts., N. O.
- 5. Bemiss, S. M., University Building, New Orleans.
- 6. Bezou, Henry, 159 Dumaine street, New Orleans.
- 7. Bickham, C. J., 112 Canal street, New Orleans.
- 8. Booth, A. R., Shreveport, Caddo Parish,
- 9. Booth, W. B., Buras, Plaquemines Parish.
- 10. Boyer, P. C., 140 Canal street, New Orleans.
- 11. Brewer, W. P., cor. 2nd and St Charles street, N. O.

#### C.

- 12. Carrington, Quarantine Station, Plaquemines Parish.
- 13. Carter, J. H., cor. 1st and Magazine streets, N. O.
- 14. Chaillé, S. E., University Building, New Orleans.
- 15. Chastant, A., 40 Camp street, New Orleans.
- 16. Chew, Philip, St. Joseph, Tensas Parish.
- 17. Choppin, Saml., 142 Canal street, New Orleans.
- 18. Clay, D. M., Shreveport, Caddo Parish.
- 19. Cullen, Jno. M., 82 Girod street, New Orleans.

#### D.

- 20. Dabney, T. S., cor. Magazine and Jackson sts., N. O.
- 21. Davidson, J. P., 341 St. Mary street, New Orleans,
- 22. Davis, J. B., Gallier Court (C), New Orleans.
- 23. Davis, J. L., East Carroll Parish.
- 24. Davis, J. T., Bossier Parish.
- 25. Day, R. H., Baton Rouge, East Baton Rouge Parish.
- 26. d'Estrampes, L. A., 479 S. Rampart street, New Orleans.
- 27. Dillard, N. T., Bossier Parish.
- 28. Dreifus, E., Baronne and Lafayette sts., New Orleans.
- 29. Drew, E. S., 124 Canal street, New Orleans.

- 30. Dupree, J. W., Baton Rouge, E. Baton Rouge Parish.
- 31. DeRoaldes, A., 415 Decatur st., and 54 Union st., N. O.

E.

32. Egan, J. C., Shreveport, Caddo Parish.

F.

- 33. Faget, C., 281 North Rampart street, New Orleans.
- 34. Faget, J. C., 281 North Rampart street, New Orleans.
- 35. Fisher, J. A. G., 168 Felicity street, New Orleans.
- 36. Ford, T. G., Shreveport, Caddo Parish.
- 37. Fox, D. R., Jesuits' Bend, Plaquemine Parish.
- 38. Francez, J. P., Vermillionville, Lafayette Parish.
- 39. Friedrichs, A. G., 155 St. Charles street, New Orleans.
- 40. Frierson, W. F., Keachi, DeSoto Parish.

G.

- 41. Gazzo, J. B. C., Thibodeaux, Lafourche Parish.
- 42. Gazzo, J. B. C., Jr., Thibodeaux, Lafourche Parish.
- 43. Givens, Alonzo, Mandeville, St. Tammany.
- 44. Gourrier, A. R., 149 Canal street, New Orleans.
- 45. Gray, R. A., Shreveport, Caddo Parish.

H.

- 46. Hays, G. A. B., Happy Jack P. O., Plaquemine Parish.
- 47. Hammond, J. D., Lind Grove, Morehouse.
- 48. Henry, S. L., Carrollton, New Orleans.
- 49. Herrick, S. S., Sec'ty Board of Health, State House, N. O.
- 50. Hilliard, W., Shreveport, Caddo Parish,
- 51. Holt, Joseph, 457 Baronne street, New Orleans.

J.

- 52. Jamison, David, Baronne between Julia and St. Joseph.
- 53. January, D. P., St. Joseph, Tensas Parish.
- 54. Jones, Joseph, cor. St. Andrew and St. Charles, N. O.
- 55. Johnson, John, Chemist, Charity Hospital, N. O.

L.

Langenbecker, C. O., 19 Baronne street, New Orleans.
 11

- 57. Langworthy, O. P., Clinton, East Feliciana.
- 58. Larcade, J., St Gabriel P. O., Iberville.
- 59. Layton, Thos., 67 Chartres street, New Orleans.
- 60. Lehde, J. P., 82 Baronne street, New Orleans.
- 61. Lewis, E. S., University Building, New Orleaans.
- 62. Loeber, F., Baronne street near Lafayette street, N. O.
- 63. Logan, Saml., University Building, New Orleans.
- 64. Love, A. C., Donaldsonville, Ascension Parish.
- 65. Lyon, A. A., Shreveport, Caddo Parish.
- 66. Lyons, J. J., 219 Carondelet street, New Orleans.

#### M.

- 67. McCutcheon, P. B., St. Charles near Marengo st., N. O.
- 68. Mercier, Chas. S., University Building, New Orleans.
- 69. Metcalf, H. L., 142 Canal street, New Orleans.
- 70. Miles, A. B., Charity Hospital, New Orleans.
- 71. Minvielle, G. P., Jeannerettes, Iberia Parisb.
- 72. Mitchell, W. S., 11 Baronne street, New Orleans.

#### N.

73. Newell, D. S., Tensas Parish.

#### P.

- 74. Parham. F. W., 112 Canal street, New Orleans.
- 75. Perkins, L. G., Clinton, East Feliciana Parish.
- 76. Pope, B. A., 148 Canal street, New Orleans.
- 77. Postell, P. S., Plaquemine, Iberville Parish.
- 78. Pratt, Geo. K., Charity Hospital, New Orleans.

#### R.

79. Richardson, T. G., University Building, New Orleans.

#### S.

- 80. Sauvage, R., 383 Victory street, New Orleans.
- 81. Salomon, L. F., 19 Baronne street, New Orleans.
- 82. Schuppert, M., 179 Carondelet street, New Orleans.
- 83. Schuppert, W. E., 179 Carondelet street, New Orleans.
- 84. Sandel, Wm., Monroe, Ouachita Parish.
- 85. Schlater, M. E., 142 Canal street, New Orleans.

- 86. Schmidt, H. D., Charity Hospital, New Orleans.
- 87. Scott, Jno. J., Shreveport, Caddo Parish.
- 88. Scruggs, S. O., Cloutierville, Natchitoches Parish.
- 89. Shepard, E. T., cor. Napoleon Av. and Coliseum st., N. O.
- 90. Smith, C. M., Franklin, St. Mary Parish.
- 91. Smith, Howard, cor. Josephine and St. Charles sts., N. O.
- 92. Snell, A. B., Bayou Goula, Iberville Parish.
- 93. Stillé, B., 33 Camp street, New Orleans.
- 94. Swing, L. D., Plaquemine, Iberville Parish.

#### T.

95. Tebault, C. H., 496 Baronne street, New Orleans.

#### V.

- 96. Vance, W. D., 181 Canal street, New Orleans.
- 97. Vance, Thos. J., Benton, Bossier Parish.
- 98. Veazie, H. A., 159 Baronne street, N. O.

#### W.

- 99. Watkins, J. M., 118 Elysian Field street, N. O.
- 100. Watkins, W. H., Franklin and Josephine sts., N. O.
- 101. Whitworth, W. T., Shreveport, Caddo Parish.
- 102. White, R. C., St. Mary Parish.
- 103. Wise, J. H. P., Glen Grove, St. Mary Parish.
- 104. Wilkinson, C. P., Buras P. O., Plaquemine Parish.
- 105. Wilkinson, J, B,, Buras P. O., Plaquemine Parish.
- 106. Williams, A. B., Baton Rouge, E. Baton Rouge Parish.

ALPHABETICAL LIST OF PARISHES REPRESENTED IN THE LOUISIANA STATE MEDICAL SOCIETY, THE MEMBERSHIP OF EACH PARISH BEING ALSO ALPHABETICALLY ARRANGED.

PARISHES.

DOCTORS.

Ascension ..... Counell, Love.

Bossier ..... Davis, Dillard, Vance.

PARISHES.

DOCTORS.

Caddo ...........Allen, Ashton, Booth, Clay, Egan, Ford, Gray, Hilliard, Lyon, Scott, Whit-

worth.

DeSoto ..... Frierson.

East Baton Rouge. Day, Dupree, Williams.

East Carroll ..... Davis.

East Feliciana . . . Langworthy, Perkins.

Iberia ...... Minvielle.

Iberville ..... Larcade, Postell, Snell, Swing.

Lafayette ..... Francez.

Lafourche ..... Gazzo (Jr.), Gazzo (Sr.)

Morehouse ... ... Hammond. Natchitoches ..... Scruggs.

Orleans ..... Austin, Beard, Bemiss, Bezou, Bickham,

Boyer, Brewer, Carter, Chaillé, Chastant, Choppin, Cullen, Dabney, Davidson, Davis, D'Estrampes, De-Roaldes, Dreifus, Drew, Faget (C.), Faget (J. C.), Fisher, Friedrichs, Gourrier, Henry, Herrick, Holt, Jamison, Johnson, Jones, Langenbecker, Layton, Lehde, Lewis, Loeber, Logan, Lyons, McCutcheon, Mercier, Metcalff, Miles, Mitchell, Parham, Pope, Pratt, Salomon, Sauvage, Richardson, Schlater, Schmidt, Schuppert (M.), Schuppert (W. E.), Shephard, Smith, Stillé, Tebault, Steinau, Veazie, Watkins, (J. M.), Watkins (W. H.)

Ouachita ..... Sandel.

Plaquemines ......Booth, Carrington, Fox, Hays, Wilkinson. (C. P.), Wilkinson (.. B.)

St. Mary ...... Smith, White, Wise.

St. Tammany ..... Givens.

Tensas ..... Chew, January, Newell,

#### PRESIDENT'S ADDRESS.

Gentlemen.—When I returned to this city on yesterday I was informed by the chairman of the committee of arrangements that our President could not meet with us on this occasion, and that as Senior Vice President, it was expected that I should make the opening address. With but a very few hours notice, and with some very important engagements to employ a considerable portion of that time, it is simply impossible to fill in a manner satisfactory, either to you or myself, the role of our absent chief officer. But as there must be at least an attempt at discharge of duty, I shall claim for this attempt a few min-

utes only of your time.

This is a period when the meetings of medical bodies in this country are invested with unusual interest. The whole country, from Maine to Texas, is excited and anxious in regard to invasions of epidemic diseases. The demands of the people are that some action be taken which is to give them more security against epidemic visitations. While the prevention and treatment of epidemics represent but a fragment of the practitioners' duties as summed together, the occasions of their outbreak and prevalence are periods of unusual responsibility to our profession. The laity look to us for protection from pestilence. They expect us to be acquainted with the laws which govern its origin and spread. They often demand a minuteness of information respecting its cause which shall amount to a positive knowledge of its essentiality in a strictly objective sense. It may be that we shall never reach this point of knowledge in respect to some of our epidemic diseases, if the remark may not be true as applied to all of them. But it is a question pertinent to ourselves, whether we may not study more closely and more methodically than hitherto, the conditions and circumstances affecting the development and multiplication of epidemic causes? What I desire to express is the conclusion that a full knowledge of all the facts connected with the origin, mode of spread and subsidence, or arrest of epidemics, will enable us to accomplish a wonderful amount of good in restricting their progress. But it is also worthy to be remarked that labor to achieve these purposes, should not be supposed to supercede that higher ambition which is urging various members of our profession to patient and skillful efforts to bring into the sunlight of our knowledge the hidden cause of at least one of our epidemic maladies-Yellow Fever.

The recent destructive epidemic of yellow fever in this State should make it a point of consideration and discussion during the present meeting. I do not mean to recommend that any debates should occupy our time touching the various

opinions held respecting points in its natural history which are not fully understood, but refer to certain practical matters which are likely to arise in future outbreaks. One of the most important of these questions is the proper construction and administration of what are called inland quarantines, or by way of showing in strong language their independence of

legal statutes "shot gun quarantines."

It is not at all necessary for us to give any expression to our opinions concerning the general advisability of such measures for the arrest of the spread of yellow fever. In the present state of popular panic it is our duty to look upon their institution as the inevitable result of reported cases of that disease. I think, therefore, that it would be prudent action on our part to appoint committees in some of the most populous or exposed parishes, whose duty it should be to give such a construction to the direction and management of these quarantines that they should not be enforced unless justifiable: and when enforced, that they should be deprived of that unnecessary rigor which attended their execution in 1878. It happened not infrequently during the late epidemic that the sick were deprived of medical advice, of supplies necessary for their recovery and of proper attention, by armed men, whose ideas of duty contemplated the protection of those over whom they stood guard, and none others.

But while we bestow a merited degree of attention upon that direful disease which has so recently robbed us of some of the best of our citizens, we must be mindful of the fact that other agencies exist in our midst which wage incessant war upon human health. First to be named in this list is the malarial poison. I take it to be strictly true that no considerble area of this State is exempt from this poison. Whilst the laws which govern its evolution are well understood, we are powerless to intercept its development because the measure of drainage positively necessary to this end cannot at present be undertaken. It may be hoped that at no very distant day sanitary surveys may be ordered under the supervision of the National Board of Health, looking to the arrest of malarial diseases in those localities in this State and elsewhere where

they figure largely in the mortality reports.

But, gentlemen, we have very much to confer about regarding the health of the inhabitants of this State. One of the problems quite worthy of our consideration embraces the sanitary condition and requirements of our metropolis. As you are well aware, it is a city frequently spoken of, as a very opprobrium to all civilized sanitary precepts. Again it is called the "plague spot" of the nation. It should be looked upon as in reality deserving neither one nor the other of these epithets. Its location upon an enormous bed of alluvium, elevated but a few feet above the level of the sea and in close proximity to extensive marshes, all combine to throw formidable obstacles in the way of efforts to place the city in good local sanitary

condition. If we add to these enumerated obstacles the difficulties which necessarily attach to an *entrepot* for foreign commerce, as it respects the personal hygiene of the promiscuous assortments of all peoples and nations who serve to make up its population, it will be readily perceived that the problem is not easy of solution. But it is within the compass of human exertion to render this city as healthy as any other similarly situated, as it respects climate and local surroundings. It might be regarded as wise to appoint committees to report at our next meeting upon the sanitary state and requirements of various of our larger cities and towns and even rural localities.

It is often said that human health is a blessing not appreciated until it passes from one's possession. But medical practitioners place a higher estimate upon the health of communities than unprofessional members of such communities. This is because they are more familiar with the mischievous effects of sickness. They see that it is subversive of happiness or enjoyment; that it injures the prosperity of families or communities; that it interferes with proper development, either physical or mental. With these inground sentiments, physicians stand ready to lead the vanguard in all properly devised sanitary reforms. Now seems to me to be a mest opportune time for a concerted movement in this direction. The public mind is awakened to the importance of such a movement, and the National Legislature is alive to the interests of the people, and is willing to do and to grant whatever is regarded necessary for their protection against disease,

Before this meeting shall adjourn I hope to place in the hands of its members a circular letter containing information of the organization and proposed plan of work of the National Board of Health. But my remarks at this time would be quite incomplete if they contained only a passing allusion to it.

The objects of this board and its proposed plan of work should be fully understood by all local medical associations or conventions. In the first place, this board proposes to make its work co-operative. It says, in the most fraternal language, to all State and local associations and boards of health, and even to individual members of the profession, wherever situated: "Help me in our great labors for the good of our fellow-beings, and I will assuredly help you." It asks you to give information respecting the existence of disease, respecting the sanitary conditions of your various localities, and respecting every fact or question bearing upon public health, and it in turn will furnish you its facts and items of knowledge from every part of the country and world. The board does not desire to appear in a magisterial or even executive role, which would involve any assumption of powers which it does not really possess.

The legislative enactment which created this board makes the collection and dissemination of facts connected with the public health a leading duty. The collection of information from every part of the United States, of a necessity, requires that correspondents should be chosen for every county or parish in the different States. The suggestions of this association would be respected by the National Board of Health, in reference to the selection of the correspondents who are to furnish the information required from this State. The interchange of knowledge and advice contemplated by this arrangement can scarcely be overestimated in its value. Let it be brought into complete working order by the full and earnest co-operation of our whole profession, and that profession becomes, as it were, a compact aimy, marching abreast with each other in pursuit of truths, and constantly reaching higher standpoints of human learning and wisdom,

If the amount of money required by the National Board of Health should be placed at its disposal, for the purposes specified, it is proposed to appoint scientific commissions to make investigations and reports concerning a variety of questions

affecting public health in this country.

It is desirable that this association take some action in selecting those questions of greatest interest to ourselves, and in indicating the manner of conducting such commissions, and in recommending the men who, in their opinion, are best fitted to perform the work. All suggestions upon these various points will meet with due consideration by the National Board.

It is also proposed by the National Board of Health to offer competent prizes for essays showing original researches, investigations or discoveries. In every instance before the adjudication of a prize the work will be submitted to the examination and severest scrutiny of the leading men of the United States, chosen with express reference to their knowledge of the special original investigation or discovery. This proposition should excite vigorous prosecutions of original investigations, and more especially in that abstruse but important field of study, the causes of epidemic diseases. The National Board of Health will reward the discoverer of the cause or contagion of any given disease with a purse of money, and honors as great as can be accumulated upon his head. But, first of all, before he receives rewards, he must pass before an ordeal of severe and satisfying tests respecting the substantiality of his claims. Perhaps it is not out of place to say just here that the board will most rigidly give due credit to every contributor in aid of

Again, it is proposed that the National Board of Health shall, upon call, and only in such case, co-operate with local members of the profession in sudden and violent outbreaks of epidemic disease in any portion of the United States. The character of assistance given in such events will depend upon the nature of the emergency and the mode in which it is indicated that the best aid can be rendered.

It is, however, expected that the National Board of Health

will not permit any important epidemic to transpire in any part of the country without the presence of a comprehent observer to record all the prominent points of its history. This observer may be either a resident of the locality or a special

agent deputized by the board from elsewhere.

In matters of quarantine, whether maritime or inland, the National Board of Health has no powers beyond those of an advisory and co-operative character. Whenever requested by the proper authorities to do so, the board will render such aid as may be within its control, which may either be brought about by influence exerted upon local authorities, or by delegating officers to act in conjunction with the local authorities.

Another most important means of aiding in this great work of public sanitation marked out by the National Board of Health is through a vigorous and faithful co-operation in the labors of its standing committees. These committees will be announced to each one of you by circular letters and through means of the leading medical journals and newspapers of the

country.

You will at once perceive their great importance in the work herein prefigured. Information should be abundantly furnished the chairmen of the various committees in order that each may furnish the greatest attainable fund of knowledge upon his especial subject of inquiry. It is of some consequence to state in this connection, that all letters designed to transmit information to the board should be addressed to Dr. Turner, Secretary of the National Board of Health, Washington City, D. C. Even those letters designed for a member of the board who may be near at hand had better go through the secretary's office in order to keep him fully informed and enable him to give proper direction to the respecta of his office.

But there is yet one more point to be mentioned, in regard to which the National Board of Health hopes to accomplish a valuable public benefit. This is in advising proper sanitary legislation, whether by State Governments or the General Government. This is a character of work in regard to which our legislators are very properly sensitive and careful, but it is of paramount importance, and it should therefore be a subject of close study and careful interpretation. Committees should report at each of our meetings, declaring what character of sanitary legislation is required, and setting forth the best manner in procuring its enactment. The National Board of Health is ready to advise and also use whatever moral influence it may possess in furtherance of these purposes. But in connection with this part of our subject we have devolved upon us the duty of striving to educate the people in respect to the actual advantages which are to accrue from sanitary legislation. The people everywhere understand that human beings possess no natural or inherent authority over others of their kind, parental

authority alone excepted. Every authority conferred upon the ruler implies a corresponding concession from the governed. We should, therefore, respect these feelings of jealousy in regard to surrender of personal rights, and should labor to inform the people wherein such concessions bring to them an amount of general good compensatory to their grant of power. The people should be brought to understand that every community comprises inhabitants reckless of their own lives and health. If the sins of such people could be altogether restricted in their penalties to the reckless perpetrators of sanitary abuses there would be little cause for regret. But the citizen who conducts himself in accordance with sanitary precepts is imperiled in respect to life and health by his insanitary neighbor. There comes in the necessity for legislation, which, although the occasion of inconvenience to the well ordered citizen, is a burden he willingly bears, because it increases his personal safety by repressing the disorderly nuisance at his side. If the people are patiently educated to this standard of reasoning they will soon yield to the medical profession whatever grants of power and money it may solicit. But the applications for legislative enactments must be unanimously made. Our profession should become a unit in these movements. The action of the National Board of Health will possess the force of unanimity, and is also likely to be looked upon by legislators as coming from a body which represents the sentiments of the whole profession of this country.

Let us in our own State profit by the lesson, and before a great while the halcyon days will come when our legislators may crown us with every power asked for. Then we may be able to effect all needful sauitary retorms within the precincts of our State, and remove from her reputation the present charge of extraordinary insanitary conditions.

REPORT TO THE LOUISIANA STATE MEDICAL ASSOCIATION ON THE EXISTENCE OF LEPROSY IN THE STATE.

By L. F. SALOMON, M. D.

#### Mr. President and Gentlemen:

Having been delegated by you to investigate and make a report upon the existence of *Leprosy* in the State of Louisiana, and in view of the fact that the disease was supposed to exist to a large extent, I proceeded to perform my allotted task with the hope of providing matters of interest for your consideration; but, I regret that I have been unable to meet your, as well as my, expectations in collecting data; and fear that the

little with which I shall occupy your attention can scarcely be dignified with the title of a report.

Either there has not been sufficient interest taken in the subject by physicians throughout the State, or many cases of Leprosy have not been recognized as such; else, the information conveyed at the last meeting of this association, that the disease existed to an alarming extent, was founded on error.

Owing to unavoidable circumstances in the early part of last year, followed by the scourge which ravaged our city and occupied every moment of my time, I was unable to enter into correspondence with physicians throughout the State until last December, at which time I addressed the following letter to physicians in every p rish where I was able to obtain their names. With the exception of four or five parishes I succeeded in doing this; and to several physicians in each parish addressed the letter as follows:—

- "Doctor—Having been appointed by the Louisiana State Medical Association to make a report upon the existence of leprosy in this state, and as I desire to obtain as full information thereon as possible, I address you the following questions which you will confer a favor by answering.
- "If unable to give any information yourself, will you be kind enough to hand this to some other physician in your parish? Any information which you may be able to obtain from other physicians in your vicinage, besides what you are able to furnish yourself, will be thankfully received and due credit will be given you in the report for any facts you may be good enough to communicate.

#### QUESTIONS.

- "1.—Are there at present any cases of leprosy in your parish?
  If so, how many? What is the race or color of such cases?
  - "2.—State the variety—whether tubercular or anæsthetic.
- "3.—Give the history, as far as can be ascertained, of one or more cases.
- "4.—In the cases within your knowledge, was the disease hereditary or acquired?
- "5.—If possible, give the approximate date of the appearance of the first case of leprosy in your parish.
- "6.—Have any cases been treated by you? If so, please state treatment and the result.
- "It is essential that I should receive a reply as early as possible, so as to enable me to make a complete report. Therefore, if you will answer at your earliest convenience, you will confer a great favor."

I have received replies from about one-fourth of the physicians so addressed, all stating that they were not cognizant of

any cases of leprosy, with the exception of Drs. Young and Kibbe, of Vermilion Parish, whose letter I shall produce further on.

I had not intended entering into any extended description of the disease, but in view of the fact, stated above, that the rarity of the disease, coupled with its not having engaged the special attention of our physicians, may prevent its recognition, it may not be out of place to give a few of the salient points in its clinical history, symptoms, etc.

In this we cannot do better than review the admirable description given by Tilbury Fox in his work on Diseases of the Skin.\* He says: "There are two chief forms of leprosy—the tubercular and the non-tubercular or anæsthetic variety. There is no line of demarcation between the two. They run the one into the other, and their respective characters are often intermixed. The three chief features as regards the surface are discoloration, deposit, anæsthesia. In the tubercular variety the deposit is the marked feature; in the anæsthetic, the anæthesia is the more marked—that is to say, the disease attacks in the latter the nerves by preference, and in it the results of nerve lesion are particularly perceptible.

"The tubercular form commences with malaise—an indefinite feeling of something wrong—rheumatic pains, a falling asleep of a limb frequently with pricking sensations about the hands and feet. Very soon there is a dull red discoloration in patches; then the face begins to flush and swell, and looks overheated; then the limbs and trunk brown, and little tubercular formations make their appearance, first of all on the face, especially the ears, and on the discolored patches. From this moment the disease steadily progresses. The tuberceles vary in size from that of a pea to that of a walnut. They are soft, smooth, shiny, of a dusky red color at first, becoming presently brownish-yellow or bronzed. In the early stage the insensibility of the part may be increased, but finally diminished sensation sets in and increases until it becomes decided anæsthesia.

"The tubercles are most marked in situations where there is much lax cellular tissue; therefore about the face, nose, lips, eyes and ears. The increase in the development of the tubercles produces terrible deformity; the surface feels thickened, knotty or uneven; the face is altered completely; the edge of the mouth and lips, the eyebrows, alae of the nose, the eyelids, are all distorted and thickened, the whole integument being dirty and sallow-like, and the various aspects presented by the patient have been described as leonine, satyr-like, etc. Coincidently with these changes anæsthetic points appear in the centres of the oldest patches. Not only the cutaneous, but the mucous membranes participate in these

Op. cit., 1873, pp. 310 et seq.

changes. The mouth, nose, trachea, etc., are all affected by deposition of material in their mucous surfaces to a greater or less extent. All the internal organs with the exception of the pancreas are finally affected. The patient's voice becomes husky, his sense of smell, taste, etc., are affected, and the time has now come when ulcerative action sets in. The tumors soften, ulcerate and pour out an unhealthy, offensive secretion, which crusts over the sore from whence it came. Finally, the bones become affected (caries), hectic sets in and the patient dies. The average duration of the disease is nine and a half years, but in some climates may extend to twenty or more.

"In the anæsthetic variety the disease affects primarily the nerve trunks and very speedily leads to marked anæsthesia and subsequent destructive changes. The general symptoms of the anæsthetic variety are about the same as the tubercular, the initiatory symptoms being the same but followed in the former by tenderness, pain along the course of the chief cutaneous nerves, ending in numbness and insensibility to irritants and wasting of muscles. The integuments get parched, dry, shrivelled, perhaps covered by a clammy sweat and desquamate; subsequently to this an eruption makes its appearance, it consists not only of erythematous patches but especially of bulla, which are of large size, occurring on parts previously anæsthe. tic, these break and their place is supplied by superficial ulcerations, which after scabbing leave behind white, hard, hairless and glandless patches of disease. The central part of these patches is always anæsthetic. This typical form of eruption is the leuce of the Greeks.

"Coincidently with the changes above mentioned, the body generally wastes, especially its muscular system; hence, the fingers become distorted, and in a peculiar manner; the first phalanx is bent backwards by the extensors, the others are flexed. The face is disfigured, it looks haggard and shrivelled; the skin is what is termed "mummified" or lax and loose. The deeper parts now become affected; a joint is seized with acute pain, a sinus forms, a piece of bone is discharged and the sore heals. The terminal phalanges are the first to suffer, and the disease by steady progression removes bone after bone. The patients live on an average twice as long as in the tubercular

form.

"In certain cases leprosy partakes of the characters of both varieties, which only means that there are transitional stages between them."

Having given as briefly as is consistent with accuracy a description of the principal features of leprosy, I shall now proceed to mention such cases as have come within my knowledge, and shall begin by quoting from the letter of Drs. Young and Kibbe, of Abbeville, Vermillion Parish, to whom I am indebted for the accurate account as follows:

"The first case, as far as it is known, appeared here in 1866 or 1867, an old lady, a native of this State, and possibly of this parish. Her father came from the south of France. After suffering and confinement in bed for a long time, she died in 1870. Her fingers and toes had dropped off at the joints, and her body was covered with extensive fœtid sores. She was not treated by any physician. She was the mother of, and raised six children, four sons and two daughters.

"The second case was the second son of this old lady, aged about twenty-two (22) years, when he showed symptoms of the disease in 1871. It first appeared as a bright red spot on the forehead, gradually increasing in size with thickening of the skin, until it covered the whole face. As the disease progressed, the bright red assumed a dusky appearance. He was never treated by any physician. He is now at Hot Springs, Ark. The third and fourth cases are now residing in this town, where they were born and reared; one, the oldest, and the other, the youngest, son of the old lady who died of the disease. The disease was noticed in both these cases about the same time in 1872. It appears to be running a more rapid course in the eldest. He was very reluctant to speak about his disease, but we succeeded in eliciting from him, that when first taken he felt more or less erratic pains, particularly in the posterior part of the thigh and back of leg. At present he suffers no such pain, and boasts that his general health is His fingers are quite hard and stiff and as cold as marble. He has lost several finger nails and the ends of one or two fingers show a tendency to ulcerate; his toes are ulcerated. His voice is quite coarse and Lusky, and unless quite near one cannot understand him when speaking. The pharynx, larynx and palate seem much ulcerated. There are several small nodules on his hand; his eyebrows and eyelashes have entirely fallen out and beard gradually becoming thin. His nose is much altered in shape, being flattened and drawn to one side, having a mashed appearance. Has the usual lionine expression described by writers. says he has occasional sexual desire; sleeps well; does his own cooking and performs light work at his trade, that of car. penter. The younger brother is almost as bad as the one described and presents much the same appearance. Has inordinate sexual desire.

"The fifth case is that of a man aged about thirty-six years, a native of this parish, and a nephew of the old lady above mentioned. He was taken with the disease in 1876.

"The sixth case is that of a young white woman, a native of this parish. She is not related to the other cases, but is supposed to have contracted the disease from nursing the old lady. She was in constant attendance on, and would frequently lie in the same bed with the old lady. She was married in 1873, and had the disease at that time. She now resides in Galveston, Texas.

"Another case was reported to Dr. Kibbe last year, but the physician who reported the case, has left here and we are una-

ble to obtain any further information.

"Only two of these cases have been under treatment, the fourth and sixth, but without any benefit therefrom. They all belong to the anæsthetic variety. It is our opinion that cold weather is better borne than warm, for the above cases all seem to suffer more in summer than winter."

In the city of New Orleans, I have learned of six cases as follows: One in the Third District, exact residence not known at present; one case formerly at the corner of St. Charles and Poydras streets; one case on Common street, near the Charity Hospital, and three cases in the female surgical ward (38) of the Charity Hospital.

These cases, with one exception, belong to the tubercular variety, and all present about the same history, with the exception that none are able to trace the disease to heredity. The history of one of the cases in the hospital will serve as a

type of the others.

She is a white woman, aged twenty-four, About nine years ago the disease began by fleeting pains in the limbs, followed in a short time by red spots about the face which soon became of a dark color. On these spots small tubercles made their appearance and have increased in size until some of them have reached that of a marble. The whole cutaneous surface is of a bronze color. There are ulcerations at the ends of the fingers and toes; sensation is almost entirely lost in the hands, though this did not occur until a very short time ago. The mucous surfaces are all affected. Her voice is harsh, hearing and sight diminished to a great extent. At present she complains of no actual pain, but has a burning sensation in her limbs occasionally. She menstruated before the disease developed but has ceased to do so since the first appearance of the tubercles. She sleeps and eats well. Her face and hands are studded with nodules varying in size.

Dr. Pratt, House Surgeon of the Hospital, informs me that the three cases have been put under various treatments, but without any beneficial result.

I will here add that I have been informed of another case, of the tubercular variety, in the person of an adult female residing on Tchoupitoulas street between Richard and Orange, in this city, thus making fourteen cases in all, of which eleven remain in the State. There may, doubtless, be other cases which have not come under the notice of physicians. As regards the etiology of leprosy a great deal might be said, but as authors differ upon this subject, it will suffice to say that from the evidence I have been able to elicit, the disease may be spread in three ways: by heredity, inoculation and possibly by too free contact of the healthy with the diseased. That the latter has been denied I am aware, but sufficient proof has been brought to my mind that such cases may occur, as the one mentioned in Abbeville, where the nurse who was in the habit of sleeping with her patient contracted the disease. In view of this fact the question arises would it not be well for this Society to take some steps towards securing the isolation of lepers; that is, if in its opinion there are a sufficient number of cases to warrant legislative enactment

Without entering into a disquisition upon treatment, it will not be amiss to mention some of the remedies which have been employed. The first and most important measure in arresting the spread of the disease is to prevent the iniermarriage of those affected and in improving their hygienic condition. In the actual treatment of the disease a number of remedies have from time to time been employed, but it has been found that they do not produce the successful results claimed by their authors. Of late however the nitrate of silver has been in use and it is claimed with good results. Worthy of mention is the quinine treatment of Dr. Fox of England. He says: "In some cases quinine in large and continued doses combined with occasional aperients will do very much good—at least this is my experience, and I think it does check the formation of granulation tissue."

As a local application several means have been adopted for the purpose of dispersing the tubercles. Of these the most successful has been that of Dr. Fleming of India, who employs a solution of carbolic acid in the proportion of one part to sixteen either in oil, or glycerine and water. This is claimed to cause the disappearance of the tubercles.

Hoping that the above crude remarks will serve as the beginning of more complete information upon this subject, I respectfully submit them, and in view of the fact that the information received has been but meagre, I would respectfully request that I be granted further time to pursue my investigations into the subject, hoping thereby at our next annual meeting to be able to give a more elaborate and complete report.

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# Analyses of Sulphate of Quinine Pills.

As we have repeatedly notified the trade, our Sulphate of Quinine Pills are made of Bleached Quinine and contain the correct amount of Quinice Sulphas, as represented on the label.

We submit below three analyses of our Sulphate of Quinine Pills obtained at different druggists; the first was made by Mr. Chas. Rice, of New York, one of the editors of the "New Remedies." and chemist of Department Public Charities and Correction of New York City, who is well known both personally and by reputation by a large number of physicians and druggists throughout the country. The other two analyses are by Dr. Polenske former assistant of Prof. Sonnenshein, of Berlin, and now our own analytical chemist.

Our "Hospital Quinine" Pills are made as set forth in our circular of March 27th, which

we reprint for the information of those who may not have seen it before

With the assurance to the trade and medical profession, that we will always manufacture our preparations, as we have in the past, in perfect good faith, that we will use the best materials obtainable, increasing our knowledge by every means in our power, for examining and testing all ingredients and perfecting our business, we remain,

Very respectfully,

#### McKESSON & ROBBINS.

NEW YORK, APRIL 17th, 1878.

"MESSRS. MCKESSON & ROBBINS,

"Messas. McKESSON & ROBBINS,
Gentlemen:—Having been requested by you to make an assay of the alkaloids contained in your Gelatine-Coated Quinine Pills. I purchased an original vial, containing 100 2 grain pills, in the store of Mr. Theodore Cole, 409 First Avenue, New York. Each ten of these pills weigh d very nearly 34 grains, and the weight of the single pills is very uniform, varying but slightly either way from 3.4 grains. The whole number of pills, (100.) yielded 143.385 grains of anhydrous alkaloid, which was found to be pure, White Quinia, free from other einehona alkaloids. This amount of dry Quinia corresponds to 203.8 grains of sulphate of Quinia, containing 8 nodecules of water of erystallization (2 C<sub>2n</sub> H<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> + H<sub>2</sub> SO, -> H<sub>2</sub>, O<sub>1</sub>, or to 201.7 grains of sulphate of Quinia, containing T<sub>2n</sub> molecules of water of erystallization (2 C<sub>2n</sub> H<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> H<sub>2</sub> SO, -> H<sub>2</sub>, O<sub>3</sub>, O<sub>2</sub> H<sub>2</sub> SO, -> H<sub>2</sub> O<sub>3</sub>, or the property of the property of the commercial pure Sulphate of Quinia. The amount of Sulphate of Quinia contained in the 100 pills examined, is therefore a trifle in excess of the required quantity, (3.8 grains, or 1.7 grain, according to whatever formula may be adopted for the crystallized salt).

Respectfully,
CHARLES RICE,
Chemist, Bellevue Hospital, N. Y."

Chemist, Bellevue Hospital, N. Y."

NEW YORK, MARCH S0th, 1878. "I have analyzed McKesson & Robbins' Gelatine-Coated 5 grs. Sulphate of Quinine Pills, from an original bottle of one hundred, and find that in two analyses of 10 pills each, the result in both cases was 51 grains of pure ED. POLENSKE, Ph. D."

New York, April 18th, 1878.

"One hundred McKesson & Robbins' Gelatine-Coated 2 grs. Sulphate of Quinine Pills, analyzed by me to-day, contained 198 grains of Sulphate of Quinine. The Sulphate of Quinine obtained from these pills stood the Ether test, as laid down in the U. S. Ph.

ED. POLENSKE, Ph. D."

#### Circular of March 27th, 1878.

Since we changed, last fall, from Unbleached to Bleached Quinine in the manufacture of our Pills, we have Since we changed, last fall, from Unbleached to Bleached Quinine in the manufacture of our Pills, we have heard from a large number of druggists and physicians stating that the therapeutical effects of the dark pills were better than the "bleached," dose for dose, where a tonic was indicated, and the antiperiodic effects of the former were as well marked. We made the change because we were disappointed in obtaining a uniform article of unbleached Quining, were deceived in two shipments we received and the analyses of samples from the same package we submitted to different highly reputable chemists varied surprisingly, in fact, analysing Quinine quantitively is very difficult, as it depends very largely upon the different solubilities of the alkaloids in water, while the qualitative considerate ways, shapele of adultable. tive analysis is very simple and reliable.

The curative properties of the other alkaloids of Cinchona Barks have been well attested and the effect of the combined alkaloids has been repeatedly asserted to be greater than that of any one alone.

In view of these facts, we accordingly propose to offer Pills made of Hospital Quinine, which differs from that which has been known and understood as "unbleached," in the process of manufacture and in the proportion of Quinine. This Hospital Quinine will contain about 50 per cent, of Quinine Sulphate, and the balance, Cinchonidia Sulphate and traces of Quinida Sulphate; the Cinchonia Sulphate, being less powerful than the other alkaloids is supported.

separated.

These pills on account of their lower price will relieve a difficulty, to which a large number of people living in malarious districts have been subjected—the inability to purchase Quinine Pills on account of price, especially when scarcity causes sudden and great advances, as at present—at the same time we believe that confidence may be

when scarcity causes sudden and great advances, as at present—at the same time we believe that confidence may be felt or experiencing equal relief with similar doses.

We will continue, as now, to make our "Quinine Pills" of bleached Quinine, and the white color will readily identify them from our darker Hospital Quinines, which will be labelled "Hospital Quinine." The list of Hospital Quinine Pills we submit below is subject to same discount as our other pills, and will be reduced as soon as the market on Quinine will allow. We call special attention to our Pills of Cinchona Bark Alkaloids, which contain a definite quantity of each of the four alkaloids, one half grain each Sulphates Quinia, Quinidia, Cinchona and

We annex below list of our Pills of other Cinchona Alkaloids, and remain, soliciting your correspondence and

valued orders. Yours respectfully.

#### McKESSON & ROBBINS.

#### Pills of "HOSPITAL QUININE" and the Cheaper Alkaloids.

Andrew Control of the					
"HOSPITAL QUININE," † gr "HOSPITAL QUININE," † gr "HOSPITAL QUININE," † gr "HOSPITAL QUININE," † grs "HOSPITAL QUININE," † grs	85 1 40 1 90	3 25 4 00 6 75 9 25 12 25	Chinoidine, 4 and 1 gr. Chinoidine, 3 grs. CINCHONA BARK ALKALOIDS.	75	2 75 3 50 9 75
"HOSPITAL QUININE." 3 grs. "HOSPITAL QUININE." 4 grs. "HOSPITAL QUININE," 5 grs. Quinidia, Sulphate, 1 gr. Quinidia, Sulphate, 2 grs. Quinidia, Sulphate, 3 grs. Quinidia, Sulphate, 3 grs.	4 50 6 00 80 1 50	29 75 3 75	Cinch onite Sulph., 1-2 gr. Cinch onidia Sulph., 1-2 gr. Cinchonida, Sulphate, 3 grs. Cinchonidia, Sulphate, 1 gr. Cinchonidia, Sulphate, 2 grs. Cinchonidia, Sulphate, 3 grs. Cinchonidia, Sulphate, 5 grs.	60 1 00 1 50	2 75 4 75- 7 25

# HUNYADI JANOS

### MINERAL WATER.

BARON LIEBIG says:

The quantity of aperient salts contained in the Hunyadi Janos Bitter Water surpasses that of any other known Bitter Water, and it cannot be doubted that its efficacy is in proportion there-



SIR HENRY THOMPSON Prescribes this water extensively as a valuable means of preventing the excessive formation of uric acid, and for the prevention and treatment of gravel gout and stone in the bladder.

#### EXTRACTS FROM AMERICAN TESTIMONIALS.

Dr. F. BARKER & Dr. SAYRE, New York

Dr. WM. A. HAMMOND,

York. Dr. ALFRED L. LOOMIS. New York.

Dr. J. MARION SIMS. New York.

Dr. JAMES R. WOOD

Specially recommended for its efficacy in bilious attacks, prevention of gout, piles, etc., and as an ordinary aperient,
The most pleasant and efficient of all purgative min-

eral waters.

The most prompt and most efficient. Specially adapted for daily use.

As a laxative I prefer it to every other mineral

water.

O, Certain, but gentle and painless—superior to any New York. Sother bitter water.

#### EXTRACTS FROM GERMAN TESTIMONIALS.

Prof. VIRCHOW.

Berlin.

Prof. HAMBERGER Vienna.

Prof. SCANZONI

Wurzburg. Prof. FRIEDRICH.

Heidelberg. Prof. BUHL.

Munich. Prof. SPIEGELBERG Breslau.

I have tried the Hunyadi Janos on a large number of persons with invariable good and prompt success; a most valuable item in our Balneological Treasury of Remedies. I have prescribed these waters with remarkable

success.

I prescribe none but this.

Leaves nothing to desire as regards certainty and milduess of action

he dose required is only half that of other bitter waters.

None so prompt, produce so little disturbance, and can so well be borne for a length of time.

#### EXTRACTS FROM ENGLISH TESTIMONIALS.

Dr. MACNAMARA, F. R S. Dublin.

Dr. AITKEN, F. R. S

Netlev Dr. LAUDER BRUNTON, F. R. S. London,

Dr. F. T. ROBERTS. London.

Dr. MACPHERSON, London.

Dr. HERMAN N. WEBER.

London.

Most valuable and palatable.

Preferred to Pullna and Frederichshall

More frequently applied and more pleasant than its

Highly efficacious in cases of obstinate habitual constipation.

Convenient and sure.

The richest aperient water known.

#### INDISPENSABLE TO THE TRAVELING PUBLIC.

For ordinary Aperient purposes a half wine-glassful of the Hunyadi Water may be taken at bed-time, or a wine-glassful token in the morning fasting. It is most efficacious when warmed to a temperature not below 60 degrees, or when an equal quantity of hot water is added to it.

#### The APOLLINARIS COMPANY, Limited,

19 Regent St., London, England,

WHOSE LABEL IS ON EVERY GENUINE BOTTLE.

Sole Agents for the United States:

FREDK. DE BARY & CO., 41 and 43 Warren Street, New York.

The Label on every genuine Bottle is printed on BLUE paper.

# Atomizers, Croup Bottles and Bath.

Price with handle) and glass atomiz- \$ 4.50 ing tube.....

With glass and metal atomizing tube and apparatus for \$6.00 giving fomentations to any part of the body.....

All joints are hard soldered. Every one is tested and they cannot be injured by exhaustion of water. A perfect safety valve gnar-



PERFECT STEAM ATOMIZER.

anteed to remain in thorough working order, and connections for steaming any part of the body locally completes it.

The apparatus without the atomizer..... 



#### PERFECT CROUP BOTTLE.

fumes and acid vapors in croup and diphtheria.

L is a tray with handle, O is a cup which is filled & full of lime with sufficient water, the lime slackens as soon as it becomes hot and the fumes will escape through the nozzle. If acids are used, place them directly in cup P so that the steam will pass through the fluids and evaporate them.

Price complete with nozzle \ \$5 00 for fomentation..... For confining and conducting lime Atomizer with croup bottle \ 9 00 combined .....

The Bath consists of a large boiler, four times the size of the atomizer, a steam distributor and a cloak. Price \$ 6.00.

If with nozzle for local application to any part of the body, extra, \$2.00.

With box for carrying, 12x6x6.

For Sulphur and Mercurial Baths, a lamp to burn the ingredients is supplied, and also a rubber cloak, to which is attached a rubber tubing for the purpose of conveying the fumes out of the room, making it a perfect Sulphur Bath for family use and office practice.

Price of Sulphur Bath.....\$15 00. With nozzle for local application...... 17 00.

Medicated Steam Bath.

Send for illustrated descriptive circulars to

#### J. DE BEER, M. D ..

25 BROMFIELD STREET, BOSTON, MASS.

#### FOOD IS THE BEST TONIC!

# MENSMAN'S PEPTONIZED Beef Tonic.

The great necessity for a fluid that would possess all the elements necessary for the support of the system, having been long felt by the medical profession, we call attention to this preparation, containing the entire nutritious properties of the muscular fibre, blood, bone, and brain of a healthy bullock, dissolved and semi-digested by aid of heat and pepsin, and preserved by spirit; thus constituting a most perfect nutritive, reconstructive tonic.

It is not a mere stimulant, like the now fashionable extract of beef, but contains blood-making, force-generating, and life-sustaining properties, proeminently calculated to support the system under the exhausting and wasting process of fevers and other acute diseases, and to rebuild and recruit the tissues and forces, whether lost in the destructive march of such affections, or induced by overwork, general debility, or the more tedious forms of chronic disease.

It is friendly and helpful to the most delicate stomach, and where there is a fair remnant to build on, will reconstruct the most shaftered and enfeebled constitution. It is entirely free from any drugs.

It is prepared after a thoroughly tested and scientific method.

PROPRIETORS:

# CASWELL, HAZARD & CO.,

Druggists and Chemists,

5th Ave., cor. 24th Street and 6th Ave., cor. 39th St.,

NEW YORK.

# WYETH'S DIALYSED IRON.

(FERRUM DIALYSATUM.)

A Pure Neutral Solution of Peroxide of Iron in the Colloid Form The Result of Endosmosis and Difusion with Distilled Water.

PREPARED SOLELY BY

### JOHN WYETH & BRO.,

PHILADELPHIA.

This article possesses great advantages over every other ferruginous preparation heretofore introduced, as it is a solution of Iron in as nearly as possible the form in which it exists in the blood. It is a preparation of invariable strength and purity, obtained by a process of dialysation, the Iron being separated from its combinations by endosmosis, according to the law of diffusion of liquids. It has no styptic taste, does not blacken the teeth, disturb the stomach, or constipate the bowels.

It affords, therefore, the very best mode of administering

#### IRON

in cases where the use of this remedy is indicated.

Physicians and Apothecaries will appreciate how important is the fact that as an antidote for Poisoning by Arsenic. Dialysed Iron is quite as efficient as the Hydrated Sesquioxide (hitherto the best remedy known in such cases) and has the great advantage of being always ready for immediate use. It will now doubtless be found in every drug store to supply such an emergency.

Full directions accompany each Bottle.

In addition to this Solution, we prepare a Syrup which is pleasantly flavored, but as the Solution is tasteless, we recommend it in preference; Physicians will find our DIALYSED IRON in all the leading Drug Stores in the United States and Canada.

It is put up in bottles retailing for ONE DOLLAR, containing sufficient for two months treatment. Large size is intended for hospital and dispensing. Retail at \$1.50.

Price Lists, &c., &c , sent on application.

JOHN WYETH & BRO., Phila.

Now on hand for the trade by G. R. FINLAY & CO., E, J. HART & CO. Samples to Physicians free on application to

Alex. K. Finlay.

Dispensing Druggist, New Orleans.

# COMPRESSED PEPTONIC PILLS.

Each Pill contains 1 grain pure Pepsin, 1 grain pure Pancreatine Lacto-Phosphate of Lime and Lactic Acid, and therefore represents 10 grains of the ordinary or Saccharated Pepsin and 10 grains Pancreatine as usually prescribed and dispensed. Physicians have found these Pills to give prompt relief in many forms of Dyspepsia and Indigestion. They will be of permanent benefit in all cases of enfeebled digestion, produced from want of proper secretion of gastric juice. Physicians will appreciate the great advantage of the mode of preparation of these Pills in the absence of sugar or starch, which is present in all the ordinary Pepsin and Pancreatine Compounds, the increased benefit to the Dyspeptic being due to a full and effective dose of the Pepsin and Pancreatine in soluble combination, and small bulk free from the really hurtful addition of sugar.

\*Dose—One Pill after eating or when suffering from Indigestion, Lump in the Threat or Flatulence. For children reduce the Pill to powder and give one-fourth to one-half.

JOHN WYETH & BRO.

Chemists, Philadelphia.

# Chemists,

#### PHILADELPHIA.

#### COMPRESSED POWDERS, OR PILLS.

Made by simply compressing a dry powdered drug, without any excipient moisture or other aid to cohesion. They are found to be porous, to disintegrate and dissolve much more readily than pills made by any other process, and on account of their somewhat flattened shape are more easily swallowed than any other form of pill. The Quinia Bi-Sulphate Compressed will act as promptly as a solution of ordinary Quinine.

#### COMPRESSED POWDERS, OR PILLS.

Complete lists, with formulæ mailed upon application.

ACID ARSENICI, 1-20 grs.

"SAL., 5 grs.
ACONITIÆ, 1-60 grs.
ALOES and MASTICH, U. S. P.
APERIENT. See list.
BISMUTH SUB. NIT., 5 grs.
CALOMEL, 2 grs.
"Imp.
"Veg.
CINCHONA SUL., 2 grs.
CINCHONA SUL., 2 grs.
CINCHONIDIÆ SUL., 2 grs.
COLOCYNTH. CO. U. S. P.
DIGITALIS CO. See list.
"and QUIN. CIT., 2 grs.
"and QUIN. CIT., 2 grs.
HYDRARG, 3 grains.
TODOFORM and IRON, 1 gr. each.
IPECAC and OPII, 5 grs. pulv. dose.
MORPH. SUL., ½ gr.
NEURALGIC.
OPII, 1 gr.
"and CAMPH. See list.

OPII and PLUMBI ACET. See list.
PHOSPHORUS, 1-60 gr.
1-100 gr.
PODOPHYLLIN, 1 gr.
POTASS BI-CARB, 8 grs.
BROM... 5 grs.
TODID, 5 grs.
PRANDIO,
QUINIA BI. SUL., 1 gr.
QUIN BI. SUL., 3 grs.
Sprs.
Sprs

All of the Compressed Medicines on the above list are now on hand for dispensing by ALEX. K. FINLAY and other apothecaries in New Orleans. They are supplied at wholesale by G. R. FINLAY & Co., E. J. HART & Co., I. L. LYONS, FREDERICKSON & HARTE. Samples furnished free to physicians by mail, on application to

JOHN WYETH & BRO., 1412 Walnut Street, Philadelphia.

# BEEF, IRON and WINE.

#### Extract of Beef, Citrate of Iron and Sherry Wine.

In this preparation are combined the stimulant properties of WINE and the nutriment of BEEF with the tonic powers of IRON, the effect of which on the blood is so justly valued. The peculiar feature of this combination is that it

#### COMBINES NUTRIMENT WITH STIMULUS.

In the majority of cases, along with failure of strength, and indeed as one cause of that failure, there is an inability to digest nourishing food. Hence it is very desirable to furnish noutishment in a form acceptable to the stomach, at the same time we excite this organ to do its duty. On the other hand, again, wine stimulus although needed isil borne if given by itself, producing headache, excitement, and other symptoms which may be avoided by the addition of nutritious substance, such as the Essence of Beef.

Prompt results will follow its use in cases of sudden exhaustion, arising either from acute or chronic diseases, and will prove a

#### VALUABLE RESTORATIVE FOR ALL CONVALESCENTS.

As a Nutritive Tonic it would be indicated in the treatment of impaired nutrition, im-As a Nutritive fonce it would be indicated in the treatment of impaired nutrition, impoverishment of the blood, and in all the various forms of general debility. Each table-spoonful contains the Essence of one ounce of Beef, with two grains of Citrate of Iron, dissolved in Sherry Wine. With a view to making the article more palatable a portion of the beef is in the first place partially roasted, as experience has shown that it is bett r borne by the stomach, and can be administered for a longer period when this is done.

ADULT DOSE-One tablespoonful between meals, and when suffering from fatigue or exhaustion.

Dose for Children should be reduced according to the age.

#### JOHN WYETH & BRO., Chemists.

1412 Walnut Street, Philadelphia.

# cod liver oil,

#### PHOSPHATE OF LIME.

We carnestly invite the attention of physicians to this article, which will be found to answer a most important purpose as a remedy in the large class of wasting diseases. One of the principle features in all these affections is the impairment or perversion of nutrition, the too rapid tissue transformation, and the want of certain substances essential to the organism. Especially is this manifest in the typical forms, scrofula in children, pulmonary complaints in adults. In these disorders, Cod Liver Oil acts as a fnel, maintaining animal heat. By adding to it the Phosphate of Lime we supply not only a tonic to the nervous system, but an important ingredient in other tissues of the body. When there is an actual tuberculums denoit this critical remotes its most favorable result credifies. is an actual tuberculous deposit, this article promotes its most favorable result, cretifica-

tion.

Physicians will readily understand that the real reason why very delicate persons can digest our Emulsion of Cod Liver Oil is that the oily particles are without chemical change broken up and incorporated with an agreeable solution, used as a vehicle in the process of manufacture. The molecular condition of the Oil is entirely changed; and it is in consequence more quickly and readily digested when taken.

Each ounce of the mixture contains sixteen grains of the Phosphate of Lime, so that the usual doses of Cod Liver Oil may be given, whatever may be the age of the patient.

Experience has proved that children and adults unable to take Cod Liver Oil as usually aministered find no difficulty in taking and retaining this preparation.

Adult dose, a dessert-spoonful, to be increased to a table-spoonful. Children in proportion to age.

The bottle should be well shaken before giving each dose.

#### MANUFACTURED BY

#### JOHN WYETH & BROTHER.

1412 Walnut Street, Philadelphia.

#### CODMAN & SHURTLEFF'S

#### ATOMIZING APPARATUS

All its joints are hardsoldered.

Every one is tested by hydrostatic pressure, to more than one hundred pounds to the square

It cannot be injured by exhaustion of water, or any attainable pressure, and will last for many years.

It does not throw spirts of hot water; is convenient, durable,



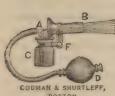
portable, compact, and cheap, in the best sense of the word. Price \$5.00

Postage 59c.

Brass parts, nickleplated, additional, \$2 (0

Neatly made, strong Black walnut Box, with convenient Handle. additional, \$2.50. Post-

The Complete Steam Atomizer-[Patented March 24, 1868].



BOSTON. The Boston Atomiser-[Patented].



Shurtleff's Atomising Apparatus-[Patented].

The most desirable Hand Apparatus. Rubber warranted of the very best quality Valves imperishable, every one carefully fitted, and will work perfectly in all positions Price \$3.50

The Bulbs are adapted to all the Atomizing tubes made by us.

Each of the above Apparatus is supplied with two carefully made annealed glass Atomizing Tubes, and accompained with directions for use. Each Apparatus is carefully packed for transportation, and warranted perfect.

The Anticentic Atomizer with Regulating self-acting cut-off

And activide polic activities, with	AU	U Fig. C	TTER EN	ready to	DAY COO								
		-				\$15.	.00,	\$25.	00,	845	.00, 4	and	\$50 00
Atomizer by Compressed Air		0	-	674	01.			40			80.		45.00
Dr. Oliver's Atomizer .	٠,				er.								4.00
Dr. Clark's Atomizer				(Pos	stage	200.)	-						3.00
The Constant Atomizer -					46 .	20c.							3.00
Dr. Knight's Atomizer					8.6	12c.	-					-	2 50
The Boston Atomizer (see cut)			0		+6	16c.			υ.		, «		2.50
Atomizing tubes in great variet	y						-		1	25	cents	to	15.00

Pamphlet on Atomization of Liquids with Formula of many articles of the Materia Medica successfully employed in the practice of a well-known American practitioner, together with descriptions of the best forms of apparatus, which

will be sent, post-paid, on application.

Plaster Bandages and Bandage Machines, Articles for Antiseptic Surgery. Aspirators, Clinical Thermometers, Crutches. Air Cushions, Wheel Chairs and Articles for Invalids. Mechanical Appliances for all deformities and deficiences, Trusses, Elastic Hose, etc. Electrical Instruments for all Medical and Surgical uses, Hypodermic Syringes, Ice and Hot Water Bags, Manikins, Models, Skeletons, Skulls, etc., etc. Naturalists Instruments Sphygmographs, Splints and Fracture Apparatus, Stethoscopes, Syringes of all kinds, Teeth Forceps, Test Cases, Transfusion Instruments, French Rubber Urinals, Urinometers, Vaccine Virus, Veterinary Instruments, Waldenburg's Pneumatic Apparatus. etc.. etc.

Surgical Instruments and Medical Appliances of every description promptly repaired Having our factory, with steam power, ample machinery, and experienced workmen, connected with our store, we can promptly make to order in the best manner, and from almost any material, new instruments and apparatus, and supply new inventions on favorable terms. Instruments bearing our name are fully warranted. With hardly an exception they are the product of our own factory, and made under our own personal supervision, by skilled workmen, who, being paid for their time, are not likely to slight their work through haste.

New Illustrated Catalogue postpaid on application.

#### CODMAN & SHURTLEFF,

Makers and Importers of Superior Surgical Instruments, etc., etc., 13 and 15 Tremont Street, Boston.

OFFICE OF

## TROMMER

# Extract of Malt

COMPANY,

FREMONT, OHIO.

FREMONT, OHIO, April, 1873.

DEAR SIR:-

It is now five years since we first introduced and began the manufacture of Extract of Malt in the United States. It has been our aim to furnish the medical profession in America with a malt-extract equal to the best German make, and (by saving the expenses of importation) much cheaper than the foreign article can be afforded. For the manner in which our efforts have been appreciated by the medical profession, we desire to express our warmest thanks.

The difficulties attending the manufacture of Extract of Malt in large quantities, can be overcome only by that kind of skill which is acquired by experience. Its constituents must receive no injury by the process, and good flavor and keeping quality, adapting it to all climates, must characterize the product. All are familiar with the striking difference between certain celebrated brands of ale and porter—and yet the poorest as well as the best, is, or should be, produced from barley malt and hops. Success greatly depends, of course, upon the employment of none but the best material; but it is by the use of specific and long tried procedures that results are obtained which are so difficult to rival.

We do ourselves but simple justice, in stating that our entire attention is, and for many years has been, exclusively devoted to the manufacture of Extract of Malt for medical purposes, and that we give our undivided personal attention to each step in the delicate process by which Extract of Malt of excellent quality can alone be made.

Under these circumstances, it is unreasonable to suppose that the various manufacturers of fluid extracts, elixirs, pills, &c., who (attracted by the high reputation of our Extract of Malt) have recently, in various sections of the country, undertaken the manufacture of a similar article, should generally succeed in producing it of a quality according with the fulsome praise with which their advertisements are filled. While being perfectly willing to let the reputation of our Extract of Malt rest upon its real merits, we owe it to the medical profession, as well as to ourselves, to give warning against imposition.

It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the

substance called GRAPE SUGAR OF MALTINE, which, as is well known, is the product of the action of sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar or glucose which is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery, sugarhouse syrup, "strained honey," native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and cane sugar.

Again, an extract of malted grain is manufactured for the purpose of obtaining diastase, which (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of diastase, is now being offered for pure malt extract.

It is malt extract prepared from Barley malt combined with the proper proportion of Hops, that has been for many years the standard medicinal-nutritive employed by the medical faculty of Europe, and especially of Germany. Its value has been established by experience, and its use in the treatment of almost all forms of disease of nutrition is constantly extending. We shall continue to devote the most scrupulous attention of the maintenance of the reputation of our malt extract, by the careful selection of material and by unwearied personal attention to manufacturing details.

Attention is respectfully directed to the accompanying extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

Very Respectfully,

TROMMER EXTRACT OF MALT CO.

[From Ziemssen's Cyclopædia of the Practice of Medicine, Vol. XVI, page 474:]

"The Malt Extract prepared from Trommer's receipt is designed to fulfil much the same purpose as Cod-liver oil, carbo-hydrates (malt-sugar, dextrin,) taking the place of fatty matter. The simple (much or little hopped) and the Chalybeate form of Malt Extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should, therefore, be preferred in the dyspeptic forms of anæmia. During the last few years Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of phthisis, and other wasting diseases at the Basle hospital, and we have as yet found no reason for returning to the use of the latter remedy. The Extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful in milk, broth, beer, or wine."

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The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The extract is prepared by an improved process, which prevents injury to its properties or flavor by excess of heat. IT REPRESENTS THE SOLUBLE CONSTITUENTS OF MALT AND HOPS, viz: Malt, sugar, dextrine, diastase, resin and bitter of hops, phosphates of lime and magnesia, and alkaline salts.

salts.

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Yours truly. SILAS H DOUGLAS, Prof. of Analytical and Applied Chemistry.

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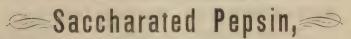
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# College of Physicians & Surgeons.

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#### SEVENTY-SECOND SESSION, 1878-'79.

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# College of Physicians Surgeons.

(Medical Department of Columbia College),

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GEORGE G. WHEELOCK, M.D., Lecturer on Physical

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- I. Didactic Lectures—During the Wister Session from five to six lectures are given daily by the Faculty. Attendance obligatory. During the Spring Session, two lectures are given daily by the Faculty of the Spring Session. Attendance optional.
- II. CLINICAL TRACHING—Ten Clisics, covering all departments of Medicine and Surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue. Charity, New York and Roosevelt Hospitals, the New York Eye and Ear Infirmary, etc.) as a regular feature of the College curriculum. Attendance optional.
  - RECITATIONS are held daily throughout both Sessions. Attendance optional.
- IV. PERSONAL INSTRUCTION—Cases of Obstatrics are furnished without charge. Personal instruction is given in Practical Anatomy, Operative Surgery, Hinor Surgery, Physical Diagnosis, Ophthalmology, Otology, and Lawyngoscopy. Attendance optional, except upon Practical Anatomy.

EXPENSES—The necessary exponses are a yearly matriculation fee (\$5, good for a collegiate year), the fees for the lectures of the Winter Session (\$20 for the course on each branch. or \$140 for the entire curriculum), the Fractical Anatomy fee (\$10, and a small charge for material), and a Graduation Fee of \$30. The graduating course requires three years study, attendance upon two full winter courses of lectures, and upon one course of Practical Anatomy. Remissions and reductions of lecture fees are made to graduates and students whose already attended two full courses. All fees are payable in advance. Board can be had for from \$6 to \$9 a week, and the Clerk of the College well all six ductors in other than 10 feet.

For the Annual Catalogue and Announcement, or for further information, address JOHN G. CURTIS, M.D., Secretary of the Faculty, College of Physicians and Surgeons, corner of Twenty-Third Street and Fourth Avenue, New York.

# FREDERICKSON & HARTE,

## MANUFACTURING CHEMISTS' AND DRUGGISTS,

139 CANAL STREET, TOURO BUILDINGS,

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Have always on hand a full assortment of pure and fresh

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Which are selected with great care for our extensive Retail and Prescription Business. We can offer a full guarantee to Physicians who reside in the country, and who will entrust us with the filling of their orders, that they will be executed to their full satisfaction—in regard to quality and charges.

To one branch of our business we especially desire to call the attention of the medical profession of this city, and also of the practitioners in this and neighboring States, that

is: the manufacturing of

# Pharmaceutical Preparations,

PURE MEDICINAL EXTRACTS, Fluid & Solid,

OLEATES OF MERCURY AND MORPHINE.

PURE OLEIG ACID.

IODIDE OF ETHYL, (new), a constant and ready means of administering Iodine.

COD LIVER OIL AND SOLUBLE PHOSPHATE OF LIME—a most perfect emulsion and superior in every respect to all similar compounds—always freshly prepared.

DIALYSED IRON—in full strength, as introduced by us into this country over 6 years ago.

\*\*SWEET SPIRITS NITRE—distilled in our laboratory strictly according to U. S. P. Specific gravity 0.837, while in trade it generally shows over 0.900.

CHERRY-LAURFL AND ORANGE FLOWER WATER-superior to the imported.

Lately we have added steam apparatus to our Manufacturing Department, so that we can now offer an article of

# EXTRACT OF MALT,

which in purity and strength equals any similar preparation, and on account of being freshly prepared according to the demand, it should always be preferred to the imported article. We prepare:

#### EXTRACT OF MALT,

Plain, Ferrated, with Cod Liver Oil, Hypophosphites, Alteratives, etc., etc., according to the directions of Physicians

We have also in store a superior article of fresh

#### BERGEN COD LIVER OIL,

Prepared by Möller's process, and of our own importation,

#### SURGICAL INSTRUMENTS,

ELASTIC STOCKINGS, ABDOMINAL SUPPORTERS, AYRES'
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-ALSO, ALL

MINERAL WATERS, Friedrichshall Bitter, Vichy, Blue Lick, Congress, Orezza, Apollinaris, Eunyadi Janos, etc., etc.

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Made from Canada Barley, selected, malted, dried, and extracted by, and under the immediate supervision of Graduates of the Philadelphia College of Pharmacy. CONCENTRATED IN VACUUO. This is as perfect an extract of the highest grade of carefully selected Barley Malt as can be PREPARED BY THE USE OF THE MOST IMPROVED VACUUM APPARATUS, recently designed for our own laboratory. AS A FOOD in Syphilis, Typhoid and other fevers, Consumption and similar wasting diseases, it is without an equal for the rapid building up of a degenerate or depraved condition of the blood or tissues, since it acts not only as food itself, but its use converts and changes other kinds of food into a condition allowing easy assimilation.

We append the following letter from a gentleman well known to all:

Messrs. Kraber & Mattison:

PHILADELPHIA, September 25th, 1877.

Gentlemen,—I have employed your Extract of Malt and Infants' Food in a large number of cases, much to my own satisfaction and to the benefit of the patient. The Infants' Food I regard as especially useful in cases of infants requiring artificial food from any cause. Yours, etc., W. B. ATKINSON,

Secretary American Medical Ass'n

ORIGINATED BY KEASBEY & MATTISON

The Most Nutritive Emulsion ever made.

Our improved Extract of Malt, with 50 per cent. of our fine Norwegian Oil, is preeminently the emulsion of Cod Liver Oil, since it has double the nutritive effect of any other emulsion of oil. It not only contains the largest amount of nutritive food in the smallest bulk of liquid, but by the action of the Diastase contained in the malt, it is capable of transforming many times its bulk of amylaceous or graminaceous food into saccharine, thus rendering it easily digestible even by the most delicate stomach of the invalid. The disagreeable cructations from the stomach, which is one of the greatest objections to the use of all preparations of Cod Liver Oil, is completely obviated in this preparation. We would direct the attention of physicians to the special fact that it unites perfectly with water in any proportion, and that the oil does not again separate, thus showing how per feetly the oil is emulsified.

\*\*Desc-A Pessert to Tablespoonful immediately after Markey.\*\*

Dose—A Pessert to Table poonful immediately after Meals.

els.

This is our improved Extract of Malt, with the addition of five grains of our Saccharated Pepsin to the tablespoonful. For dyspeptic disorders it is found of great value, since it digests both albumenoid and amylaceous matter, thus furnishing a preparation that is needed in the majority of cases of dyspepsia and other derangements of the stomach dependent upon the non-assimilation of the food.

Dose—A Dessert to Tablespoonful immediately after Meals.

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ORIGINATED BY KEASBEY & MATTISON. A Nourishing Diet for Invalids and Convalescents.

As a simple restorative food, where a tonic effect is desired, there is perhaps nothing in the whole line of tonic dietetics of so much real value as this preparation. It furnishes the diseased stomach with the power of assimilating amylaceous diet, and supplies readily assimilable food at the same time, in the articles of Malt Extract. The iron salt supplies the red corpuseles that are deficient in the blood, while the nutrient effect of beef is added the stimulant effect of a fine sherry wine. Each tablespoonful represents two grains of the soluble citrate of iron, and one ounce of finely chopped raw lean beef, with equal quantities of our Improved Extract of Malt and sherry wine.

For sale by Druggists everywhere. Samples may be obtained of the manufacturers,

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# SCOTT & BOWNE'S PALATABLE

# CASTOR OIL,

#### IN AN EMULSION.

We respectfully submit the above preparation to the Medical Profession, and request them to give it a trial. They will find it a most desirable mode of administering this useful

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The Emulsion is not only perfect and permanent, but absolutely palatable, and by our process of emulsifying it, we seem to have eliminated its griping properties. Physicians report that it is not only a mild and pleasant laxative and cathartic, but is a most efficient agent in Diarrhees and Intestinal Inflammation. It is put up in 40z bottle that sell for 25 cents, also in quarts for Physicians to prescribe as they desire. We will be pleased to send a sample upon application. Express paid.

FORMULA-50 per cent. Pure Cold Pressed Castor Oil.
15 per cent. Chemically pure Glycerine.

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# DR. DE BEER'S \$4.50 STEAM ATOMIZER,

is acknowledged superior to all others. An attachment for applying Steam legally and for Medicating Vapors for applications in

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APPLY FOR CIRCULARS TO DEALERS IN SURGICAL INSTRUMENTS.

Containing Detail of the only Portable Apparatus for Sulphur Fumes, Vapor and Mercurial Baths.

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A superior Antiseptic Atomizer at \$8.00.



# APOLLINARIS A NATURAL MINERAL WATER.

### THE APOLLINARIS COMPANY (Limited),

Invite attention to the Letter of the Secretary of the Treasury, under date of February the 21st, 1879, certifying that the result of "a minute and painstaking investigation" ordered by them, and made by the United States Consul, has proved that the APOLLINARIS WATER bottled at the Spring, as exported to the United States is

## PURELY NATURAL MINERAL WATER.

The CONSUL'S REPORT is accompanied by such a mass of personal testimony from the most eminent scientists of Europe, given by them after a thorough examination of the spring and its surroundings, as has perhaps never before been collected in respect of any article of commerce. It includes Reports from Professor BISCHOFF, of Wiesbaden; Privy Councillor of State, Professor HOFFMAN, F. R. S., University of Berlin; Privy Councillor Professor KEKULE. Director of the Chemical Institute, University of Bonn; Professor ODLINGEN, R. S., Oxford, Chemical Judge for Great Britain at the Centencial Exhibition; and Professor FRANKLAND, F. R. S. President of the Chemical Institute of Great Britain. F. R. S., President of the Chemical Institute of Great Britain.
Their testimony, the Assistant Secretary of the Treasury states, "abun-

dantly sustains the conclusion that the APOLLINARIS WATER, as hereto-

fore imported, is A NATURAL MINERAL WATER"

In addition to the above testimony, the Apollinaris Company, Limited,

have much satisfaction in appending the following Certificate from the WORLD-FAMOUS PROFESSOR VIRCHOW:—

"The natural Apollinaris Water of the Apollinaris spring, near Neuenahr, is an alkaline gaseous water which may be used habitually as a table water. Its pleasant taste and its richness in pure carbonic acid favourably distinguish it from the other similar mineral waters.

(Signed)

"PROFESSOR DR. VIRCHOW,

"BERLIN, 24th December, 1878."

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To be had of all Wine Merchants, Grocers, Druggists, and Mineral Water Dealers throughout the United States, and wholesale of

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## BEEF, IRON and WINE.

Extract of Beef, Citrate of Iron and Sherry Wine.

In this preparation are combined the stimulant properties of Wine and the nutriment of Bear with the tonic powers of Inox the effect of which on the blood is so justly valued. The peculiar feature of this combination is that it

#### COMBINES NUTRIMENT WITH STIMULUS.

In the majority of cases, along with failure of strength, and indeed as one cause of that In the majority of cases along with failure of strength, and indeed as one cause of that failure there is an inability to digest nourishing food. Hence it is very desirable to furnish nourishment in a form acceptable to the stomach, at the same time we excite this organ to do its duty. On the other band, again, wine stimulus although needed, is ill borne if given by itself, producing headache, excitement, and other symptoms which may be avoided by the addition of nurritious substance, such as the ESENCE OF BEEF.

Prompt results will follow its use in cases of sudden exhaustion, arising either from acute or chronic diseases, and will prove a

#### VALUABLE RESTORATIVE FOR ALL CONVALESCENTS.

As a Nutritive Tonic it would be indicated in the treatment of impaired nutrition, impoverishment of the blood, and in all the various forms of general debility. Each table-spoonful con ains the Essence of one ounce of Beef with two grains of Citrate of Iron, dissolved in Sherry Wine. With a view to making the article more palatable a portion of the beef is in the first place partially reasted, as experience has shown that it is better borne by the stomach, and can be administered for a longer period when this is done.

ADULT DOSE-One tablespoonful between meals, and when suffering from fatigue or exhaustion.

DOSE FOR CHILDREN should be reduced according to the age.

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The article furnished by us will be found superior to any other on account of the facilities we possess for the manufacture, and the care taken at every

step of the process.

Not only in general surgery, but especially in gynacological practice, Absorbent Cotton has found great favor. It differs little from ordinary cotton in appearance, except in its uniformly fine quality and pure whire color, freedom from all impurities,—being entirely cleansed from oil, resin and all foreign matter.

The property of instantly absorbing liquids its exquisite softness and great cheapness render it an invaluable substitute for Patent Lint, Charpie

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We put up our Absorbent Cotton in neat and convenient packages, con-

taining one pound, one-quarter pound and two ounces.

A descriptive Circular will be forwarded on application. Samples containing two ounces will be sent free of postage, on receipt of twenty cents.

#### JOHN WYETH & BRO.,

Manufacturing Chemists, Philadelphia.

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Fluid Extracts, Elixirs, Wines, Dialysed Iron,
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I have in stock a full line of the Fluid Extracts, Elixirs, Syrups, Wines, Compressed Powders, Dialysed Iron, and other medicinal preparations, manufactured by John Wyeth & Brother, Philadelphia.

The goods manufactured by this firm are deservedly popular, and give great satisfaction. I have every confidence in the claims of the manufacturers as to the quality of their products. Their large sale and popularity with the best retail trade for many years is the strongest evidence of their care in selecting the choicest drugs, with careful manipulation and intelligent manufacture. I can supply these preparations on as favorable terms as the manufacturers, and will send free of charge, on application, their price lists, dose books, and samples of their goods

Very Truly Yours,

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All its joints are hard soldered.

Every one is tested by hydrostatic pressure, to more than one hundred pounds to the square

It cannot be injured by exhaustion of water, or any attainable pressure, and will last for many years.

It does not throw spirts of hot water; is convenient, durable,



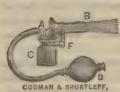
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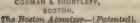
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The most desirable Hand Apparatus, Rubber warranted of the very best quality. Valves imperishable, every one carefully fitted, and will work perfectly in all positions Price \$3 50.

The Bulbs are adapted to all the Atomizing tubes made by us.
Each of the above Apparatus is supplied with two carefully-made annealed glass
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Atomizing tubes in great variety

For full description see New Pamphlet on Atomization of Liquids with Formulæ of many articles of the Materia Medica successfully employed in the practice of a well-known American practitioner, together with descriptions of the best forms of apparatus, which will be sent, post-paid, on application.

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Surgical Instruments and Medical Appliances of every description promptly repaired.

Having our factory, with steam power, ample machinery, and experienced workmen, connected with our store, we can promptly make to order in the best manner, and from almost any material, new instruments and apparatus, and supply new inventions on favorable terms. Instruments bearing our name are fully warranted. With hardly an exception they are the product of our own factory, and made under our own personal supervision, by skilled workmen, who, being paid for their time, are not likely to slight their work through haste. work through haste.

New Illustrated Catalogue postpaid on application:

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Makers and Importers of Superior Surgical Instruments, etc., etc., 13 and 15 Tremont Street, Boston.

OFFICE OF

# Extract of Malt

#### COMPANY,

FREMONT, OHIO.

FREMONT, OHIO, April, 1878.

DEAR SIR:-

It is now five years since we first introduced and began the manufacture of Extract of Malt in the United States. It has been our aim to furnish the medical profession in America with a malt-extract equal to the best German make, and (by saving the expenses of importation) much cheaper than the foreign article can be afforded. For the manner in which our efforts have been appreciated by the medical profession, we desire to express our warmest thanks.

The difficulties attending the manufacture of Extract of Malt in large quantities, can be overcome only by that kind of skill which is acquired by experience. Its constituents must receive no injury by the process and good flavor and keeping quality, adapting it to all climates, must characterize the product. All are familiar with the striking difference between certain celebrated brands of ale and porter—and yet the poorest as well as the best, is, or should be, produced from barley malt and hops. Success greatly depends, of course, upon the employment of none but the best material; but it is by the use of specific and long tried procedures that results are obtained which are so difficult to rival.

We do ourselves but simple justice, in stating that our entire attention is and for many years has been, exclusively devoted to the manufacture of Extract of Malt for medical purposes, and that we give our undivided personal attention to each step in the delicate process by which Extract of Malt of excellent quality can alone be made.

Under these circumstances, it is unreasonable to suppose that the various manufacturers of fluid extracts, elixirs, pills, &c., who (attracted by the high reputation of our Extract of Malt) have recently, in various sections of the country, undertaken the manufacture of a similar article, should generally succeed in producing it of a quality according with the fulsome praise with which their advertisements are filled. While being perfectly willing to let the reputation of our Extract of Malt rest upon its real merits, we owe it to the medical profession, is well as to ourselved, to give warning against imposition.

It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the t.Jy-79.

substance called GRAPE SUGAR or MALTINE, which, as is well known is the product of the action of sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar or glucose which is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery, sugarhouse syrup, "strained honey," native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and cane sugar.

Again, an extract of malted grain is manufactured for the purpose of obtaining diastase, which (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of diastase, is now being offered for pure malt extrac.

It is malt extract prepared from Barley malt combined with the proper proportion of Hops, that has been for many years the standard medicinal-nutritive employed by the medical faculty of Europe, and especially of Germany. Its value has been established by experience, and its use in the treatment of almost all forms of disease of nutrition is constantly extending. We shall continue to devote the most scrupulous attention of the maintenance of the reputation of our malt extract, by the careful selection of material and by unwearied personal attention to manufacturing details.

Attention is respectfully directed to the accompanying extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

Very Respectfully,

TROMMER EXTRACT OF MALT CO.

[From Ziemssen's Cyclopædia of the Practice of Medicine, Vol. XVI, page 474:]

"The Malt Extract prepared from Trommer's receipt is designed to fulfil much the same purpose as Cod-liver oil, carbo-hydrates (malt-sugar, dextrin,) taking the place of fatty matter. The simple (much or little hopped) and the Chalybeate form of Malt Extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should, therefore, be preferred in the dyspeptic forms of anæmia. During the last few years Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of phthisis, and other wasting diseases at the Basle hospital, and we have as yet found no reason for returning to the use of the latter remedy. The Extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful in milk, broth, beer, or wine."

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### TROMMERS'

The rapidly increasing demand for our Improved Extract of Malt, during the four years that it has been manufactured and offered to the medical profession in America, justifies the belief that in its production here we are meeting a generally felt want.

Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years, in any climate, without fermenting or molding, and that its flavor actually improves by age. Our Extract is guaranteed to equal, in every respect, the best German make, while, by avoiding the expense of importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The extract is prepared by an improved process, which prevents injury to its properties or flavor by excess of heat. IT REPRESENTS THE SOLUBLE CONSTITUENTS OF MALT AND HOPS, viz: Malt, sugar, destrine, diastase, resin and bitter of hops, phosphates of lime and magnesia, and alkaline

aalta

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of Chemistry, University of Michigan, Ann Arbor.

TROMMER EXTRACT OF MALT CO .: - I enclose herewith my analysis of your

Extract of Malt:
Malt Sugar 46.1: Dextrine. Hop-bitter, Extractive Matter, 23.6: Albuminous Matter [Diastase, 2.469, Ash—Phosphates, 1.712. Alkalies, 377; Water, 25.7. Total, 99.958.
In comparing the above analysis with that of the Extract of Malt of the German.

Pharmacopoea, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article

SILAS H DOUGLAS, Yours truly. SILAS H DOUGLAS, Prof. of Analytical and Applied Chemistry

This invaluable preparation is highly recommended by the medical profession, as a most effective therapeutic agent, for the restoration of delicate and exhausted constitutions. It is very nutritious, being rich in both muscle and fat producing materials.

the very nutritious, being rich in both muscle and fat producing materials. The very large proportion of Diastase renders it most effective in those forms of disease originating in imperfect digestion of the starchy elements of food.

A single dose of the Improved Trommer's Extract of Malt, contains a larger quantity of the active properties of Malt, than a pint of the best ale or porter; and not having undergone fermentation, is absolutely free from alcohol and carbouic acid.

The dose for aducts is from a dessert to a tablespoonful three times daily. It is best taken after meals, pure, or mixed with a glass of milk, or in water, wine, or any kind of spirituous liquor. Each bottle contains 13 Lbs. of the Extract.

Our preparations of Malt are for sale by druggists generally throughout the United States and Canadas, at the following prices

EXTRACT	OF	MALT,	with	Hops, plain. I with the till market to the second to the	§1 00
66	66	86	66	Pyrophosphate of Iron, Ferrated	1 00
66	"	ш	66	Cod Liver Oil,	1 00
111	66	66	66	Cod Liver Oil and Iodide of Iron, -	1 00
66	66	66	n	Cod Liver Oil and Phosphorus,	1 00
66	33	Wid	66	Hypophosphites,	1 50
66	66	86	66	Iodides • •	1 50
66	66	66	46	Alteratives,	1 50
ME	22	66	ME	Citrate of Iron and Quinia,	1 50
ec	22	46	66	Pepsin,	1 50

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# G. R. FINLAY & CO.,

### **IMPORTERS**

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# WHOLESALE DRUGGISTS,

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We keep constantly on hand a large and complete stock or

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bought exclusively for CASH, and are prepared to fill all orders entrusted to our care with accuracy and dispatch, and at the lowest possible market rates.

We deal in none but

#### First Class Goods.

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### GUARANTEED TO BE FRESH AND UNADULTERATED

The success of the physician often depends on the quality of the drug prescribed by him, and we believe our patrons will bear us out in the assertion that the quality of the goods we supply cannot be surpassed.

We are Agents for some of the LARGEST MANUFACTURING ESTAB-LISHMENTS (both of this country and Enrope) of

CHEMICALS.

PHARMACISTS' PREPARATIONS, SURGICAL INSTRUMENTS AND APPLIANCES.

and all orders will be filled with attention to furnishing such manufactures
as are designated. A full stock of

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are also kept on hand for medicinal purposes.

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SUCCESSOR TO BALL, LYONS & CO.)

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Chemicals, Essential Oils,

Chemical Apparatus, Surgical Instruments, Electric Apparatus, Medicine Chests, Saddle Bags, Trusses, Supporters, Silk Stockings, Sponges, and all articles used in Medicine and Surgery.

#### FINE WINES AND LIQUORS,

PERFUMERY, FANOY GOODS, PAINTS, OILS, DYE STUFFS, GLASS, ETC.;

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ter of Swedish Leeches,
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Only direct Importer in the South of Norwegian or Bergen Cod Liver Oil, White and Brown

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#### BLUE LICK AND BETHESDA WATER,

Always in stock a full line of

CARPENTER'S, ELLIOTS AND LESLIE'S SADDLE BAGS,

#### FRESH HUMAN AND BOVINE VACCINE.

The extensive Dispensing Department and complete Laboratory connected with my Wholesale Business enables me to give that careful attention to Physicians' Orders necessary to ensure filling them satisfactorily.

Having always exercised the greatest care in the selection of the crude materials employed, and making all pharmaceutical preparations of standard strength, in strict accordance with established and recognized formulas, I have earned and am entitled to the confidence of the profession.

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2	D. V. W.	14	5	0	bedtime. 8 grs. at bedtime.	24 grs.	the Sulphate of Quinia, with almost none of the disagreeable symptoms of the latter.	F. C. Hage uan, M. D. eaford, 1. 1.
3	Euma L.	16	60 or more	0	5 gis. every three hours, in glycerine, without in- termission. only during arbrile ex- acerbations.	30 grs.	Patient was very much pro-trated wir- typho-maisrial fever; been under the care of auother phy-ician; was called in on the third week. I then reactived 5 gra of Dextro-Qui- nine every three hours, in glycerlae, when, a it were by magic, all the grave symptoms- abated at once, and the patient made rapid recovery.	Alex. F. Joseph M. D; Napoleon, Ind
1	Mrs. 8., Double Quo- tidian. Had taken large doses Cin- chonidia sul- phate with- out effect.	Bru- nette. Mar- ried. No chil- dren.	6	100	20 grs, di vided into chart. No. v. one every two hours.	.0 grs.	Had first paroxysis Nov. 20. 8. a. M., agai. at 4 r. m. Presenthed Churchordia sulphate grs. xxx., chart. No. v. One to be taken every two hours.  Nov. 21. Return of paroxysm at 6 a. m. asa dr p. m. Gave Condonidia sulphate grs. xiv. chart. No. v. One to be taken every two hours.  Nov. 22. Return of paroxysm at same time. as on preceding days. Frescribed Dextro-Quillegrs. xx. chart. No. v. One to be taken every two hours. No return of chill since that date, and highly pleases with my experience.	N. H. Mau ring, M. D. Rigdon, Ind.
15	1. de L., fe- maie. Ter- tian. Ha- bituated to Quinia.	19 Mar- ried.	2	0	15 grs, in 5 do set of t do set of t grs, taken a mtervals of 5 h o u r commencing four hour- octore ex pected par- oxysm. Ta- ken in cap- sure.	15 grs.	Dilatation of pupil; thinitus auruin severe but not so much so as on former occasions when Sulphate of Quinis was used. Directed her to take 10 grains on the third day, but size did not do so. Twelve days have elapsed without return of chils. Is taking citrate of iron and strychnia.	Frank S. James, Ph. D., H. D., Osceola. Ark.
	Jennie S., colored. Quotidian. Has "used Quinine and everything clse," as she harself "cappressed it,	25 Morried.	Unknown, but a very large num- ber.	1	logrs, in 4 doses, in cap- sule, with t-to gr. Morphacet. to be taken at ½ hour intervals, commencing four hours before expected paroxysm	48 grs.	On first evening after exhibition of Dextro- Quinius had a very slight ague, followed by considerable fever, Which, however, soon pas- sed ot. Gave Hydrarg, Chior. Mite grs. x, at bedtime, which caused three or tour opera- tions of the bowels. The Dextro Quinine was continued the next day. Missed chill for first time in over a month. Thought it best to con- tract the control of the control of the con- traction of the control of the con- traction of the control of the con- trol of the control of the con- trol of the con- trol of the control of the con- trol of t	Frank S. James, Ph. D. M. D., Osceolo, Ark.
5	Mary B.	31/2	3	0	gr., in solution, every three hours	lo grs.	Commenced Dextro-Quinine just af er last paroxysm; it acted excellently I. 18 now more than four weeks since she took the remedy; there has been no return, she is now in the enjoyment of good health.	G. H. Berry, M. D. New York City.
6	Edward Libby, Ter- tian.	24	9 or 10	0	1 w o 12- grain doses at haif-hour natervals.	24 grs.	mad been taken Sulphace of Quinia in 5 g, doses for some time with little or no effecties had no chill since the Dextro Quinia wa administered (more than a month having lolapsed) and the result is entirely satisfactory.	If, A. Wey- mouth, M. D. Saco, Me.
11	Mary Cava nough. Quo tidian.	3	One a day for six months.	0	2 grs, in powder. every two to three hours.	15 grs.	Little girl had been complaining with chill, and fever for over six months; had used sulphate of Quinia. Fincture Chinchona, Change Quinine, etc. Had anken great quantities of Sulphate of Quinia, arithmit egicting a care. I gave in all about 15 grs. of Deatr-Juinine, and she never has had any chill since.  This one case in particular I think a remarkable one. The little girl had had chills regu-	J. H. Struble M. D. Stan

quante, in powder, every two to three hours, and to my greet suprise, as well as every one else's she failed to have any more chills. I then put her on a tonic of iron, and she is now enjoying good health. I consider the Dextr-Quinline far superior to any of the preparations of Quirine, and from what I have seen of its medicinal effects, I do not hesitate to recommend it as superior to all other remedies in Remittent and Intermittent Evers.

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THE COLLEGIATE YEAR in Ins Institution embraces a promisers are considered as Spring Session, and a Spring Session, and a Spring Session. THE PRELIMIKARY AUTUMNAL TERM for 1878-1879 will open on Wednesday, September 18th, 1878, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures on special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students expecting to attend the Regular Session are strongly recommended to attend the Preliminary Term, attendance during the latter is not required. During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.

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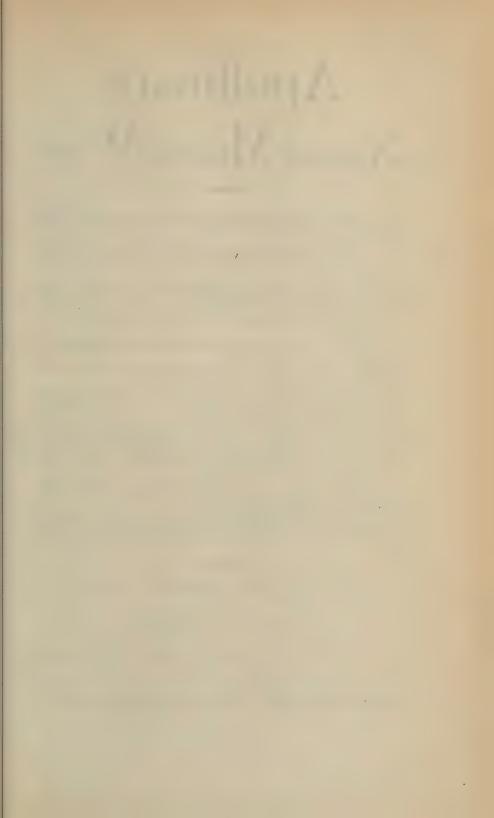
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JOHN H. PACKARD, M. D., Philadelphia, Pa., May 30th, 1878 Pres't Pa. Oo., Obstet. Society; Surg. Episcopal and Women's Hospitals.

JAS. AITKEN MEIGS, M. D.,
Philadelphia, June 20th. 1878.
Prof. of the Institutes of Med. and Med. Juris.,
Jeff Medical College; Phy. to Penn. Hos.

W. W. DAWSON, M. D., Cincinnati, O., June 21st, 1978. Prof. Prin. and Prac. Surg. Med. Col. of Ohio; Surg. to Good Samaritan Hospital.

Albert F. A. King, M. D., Washington, D. C., June 19th, 1878, Prof. of Obstetrics, University of Vermont.

D. W. YANDELL, M. D., Louisville. Ky., March 7th, 1878. Prof. of the Science and Art of Surg., and Clinical Surg. University of Louisville.

ROBT. BATTEY, M. D. Rome, Ga., June 7th. 1878.

Emeritus Prof. of Obstetrics, Atlanta Med. College, and Ex Pres. Med. Association of Ga.

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February 22d, 1876.

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Albany, N. Y., Jane 8th, 1878.

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Col.; Surg. Albany and St. Peter's Hospitals.

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Jas. Attken Meios, M. D.,
Philadelphia, June 20th, 1878.

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Jeff. Medical College; Phy. to Penn. Hos.

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ALBERT F. A. KING, M. D., Washington, D. C., June 19th, 1878, Prof. of Obstetrics, University of Vermont.

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ROBT. BATTEY, M. D., Rome, Ga., June 7th, 1878. Emeritus Prof. of Obstatrics, Atlanta Med. Col-lege, and Ex Pres. Med. Association of Go.

CLAUDE H. MASTIN, M D., LL. D., Mobile, Ala, June 8th, 1878.

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